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ORIGINAL ARTICLES.

HYDROBROMIC ETHER OR BROMIDE OF ETHYL AS AN ANÆSTHETIC.

BY LAURENCE TURNBULL, M.D., PH. G.,

OF PHILADELPHIA.

The hydrobromic ether or bromide of ethyl was discovered by Serullas in 1827, but received no special attention until Dr. Thomas Nunnelly, of Leeds, made some experiments with it on animals in 1849. Dr. Nunnelly brought the subject again before the profession, by a paper read at the meeting of the British Medical Association in 1865, in which, in conjunction with another anæsthetic, he says he had employed the one or the other in all the principal operations at the Leed's General Eye and Ear Infirmary. This was at the time when chloroform held such complete sway in England, that no importance was attached to Nunnelly's experience or experiments, and he had no one to follow him in using it, and we hear no more of it until 1876, when some experiments were made with it in France, by Rabuteau, on the lower animals, but evidently without a knowledge of the fact that this had been done previously in England by Nunnelly.

I then took the agent up without the knowledge of the experiments of Dr. Nunnelly, of England, and had it made in Philadelphia by Professor Remington, and with two friends began experimenting in September, 1877, using it first on myself, and then upon my patients. After satisfying myself as to its efficiency and safety as an anæsthetic, I laid the subject before the Pennsylvania State Medical Society in 1878, and a record of ten cases, with my conclusions, which were published in the volume of their Transactions for that year. In August, 1879, I brought it before the British Medical Association at Cork, and in September of the same year, I presented a report of one hundred cases before the International Medical Congress at Amsterdam (to which I was a delegate from the American Medical Association), up to March, 1879, when the second edition of my work on anæsthetics went to press. I had published a report of twenty-five successful cases in quite a variety of surgical operations, and had not only employed it at my daily ear clinic, but also in the Jefferson Medical College Hospital, and administered it in April, 1879, to a patient of Dr. Samuel W. Gross, at the public clinic, when he (Dr. Gross) removed a hyoid cyst in front of the neck of a child. Dr. R. J. Levis, who was at this clinic, for the first time saw it employed, and became much interested in its use.

I thus compelled chemists to make it, by producing a demand for it, and gave them, through Dr. Green, a good formula free from phosphorous; I interested surgeons all over the country to try it, and especially the surgeons of this city, by bringing it in every way before their attention. Subsequently the whole number of cases in which it has been employed by myself and friends up to June, 1880, will number some eight or nine hundred.

I can but feel disappointed that two deaths, not produced by it, should have been associated with it,[1] as such accidents will be employed by those having a prejudice against the ether, to condemm it on theoretical grounds.[2] It is my firm conviction that although in several instances recently the use of this anæsthetic has been attended with persistent vomiting, in the hundreds of cases in which it has been employed, chiefly in Philadelphia, in not one single instance has it caused cerebral trouble, or any of the symptoms produced by the action of free bromine, which are as follows. When dogs are confined in an atmosphere of bromine vapor, they suffer a profuse secretion from the eyes, nostrils, and fauces, with cough, hoarseness, dyspnœa. I have experimented upon frogs, cats, dogs, rabbits and various other animals by subjecting them to an atmosphere highly charged with the vapor of hydrobromic ether, and in no instance was there the slightest effects as described above.

PHILADELPHIA, June 2, 1880.

"Deputy Coroner Beam made an investigation of the circumstances, as reported in *The Times* nearly a week ago, of the death of William Linderman, 18 years old, of Schuylkill county, while upon the operating table at the Jefferson College Hospital on

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[1]The bromide of ethyl as an anæsthetic, by Marion Sims, M.D., LL.D., New York Medical Record, April 3, 1880.

[2]In the discussion following the report of the fatal case by Dr. Sims to the New York Medical Society, Dr. Squibb, undertook to account for the poisonous effects of bromide of ethyl by assuming it to be a loosely molecular article, easily decomposed, that thus its administration is prone to be followed by an impregnation of the system with bromine, and that if it remained as bromide of ethyl in the system it might not be harmful. This theory has been shown to be based on insufficient grounds. In the first place, Prof. Jungk has shown, bromide is not "a loosely molecular article," that in fact it is a very stable salt (for a salt it really is), and very difficult of decomposition, much more difficult than chloroform. In the second place, the assumption that anæsthesia is due to a breaking up of the anæsthetic into its elements is nothing more than a hypothesis, and one too, which has little or nothing to support it. The fact that it is one of the characteristics of bromide of ethyl, that it is perfectly unirritating to the bronchi, goes to show that it is not decomposed: if it were, the bromine in its composition, one of the most irritant of substances, would certainly manifest itself in its effects on the air passages.

Wednesday last, under the influence of the new anæsthetic, bromide of ethyl, and about to be treated for stone in in the bladder. He had been about sixteen weeks under the care of Dr. R. J. Levis, one of the strongest advocates of the new anæsthetic, and was taken to the hospital by his direction. Linderman's health was very poor at the time. Dr. Ames, who applied the bromide, said no incision had yet been made, but Dr. John B. Roberts said it had. The patient was in such a condition that something had to be done, because he could not tide over the hot weather; 96° 98° in the shade.

"Dr. J. G. Lee, the Coroner's physician, testified that he found the brain congested, *the lungs far advanced in consumption, and the kidneys and liver enlarged* and two large encysted stones in the bladder. His opinion was that they could not have been safely taken out. *Linderman could not have lived over a week or two at any rate.* Dr. Lee said further, that he had experimented with the bromide on animals without bad results. In his opinion death resulted from exhaustion and prostration, the result of phthisis. The jury took the same view in their verdict."

In subjecting the new anæsthetic to this most severe test, we do not think our friend Dr. Levis was doing justice to it; knowing the extreme debility of the patient, and that the most simple nervous shock would render him liable to death. Hundreds of patients have thus died. Again, when ordinary ether, chloroform, or other anæsthetics cause fainting, which was no doubt the result in this case, respiration has to be resorted to; now we are reliably informed that when this useful means was resorted to by alternating and relaxing the chest walls, *the pus which was in this man's lungs was forced into his bronchial tubes and suffocated him.* Again we are very sorry that the valuable agent, nitrite of amyl, which has been found useful in such cases, was not employed.

In some recent experiments on animals, I crowded four ounces (the quantity stated to have been used by Dr. Sims) upon a dog for several minutes, by means of a tin inhaler, until he became apparently dead, with no perceptible action of the heart or lungs, but the expression of his eye was clear, and the pupil was dilated, while there was no secretion from the eyes or nostrils. The apparatus was removed in the space of four minutes, and he was exposed to the air when at once he began to breath, and by the end of the six minutes, he had almost entirely recovered consciousness. The dog did not seem much inclined to move for ten or twelve minutes afterwards. While this dog was only partly under the influence of this anæsthetic, having at first caught the inhaling apparatus with his under teeth; there was a good deal of rigidity, and slight tetanic movements of the extremities, but this was overcome by the free use of the ether.

Now, had we been using chloroform, just before we would have been ready to perform any experiments upon the animal, he would have been dead, and no removal of the anæsthetic nor the introduction of atmospheric air, would have been of any avail. Again if Squibb's rectified and absolute ether had been employed; we must have super-saturated the animal, and been annoyed by the expectoration of large quantities of mucus. Then we frequently have seen tetanic convulsions, requiring several assistants to hold the patient, with great reduction of temperature, from the use of ordinary ether. The rapidity of the anæsthetic action of hydrobromic ether and its rapid elimination from the system by the lungs, are two of its chief merits for all operations that are not prolonged. If an operation is to be very tedious, and requires from one to two hours, we would advise the additional use of purified sulphuric ether to the anæsthetic. *We would therefore recommend pure hydrobromic ether in operations not lasting over forty minutes.* There is one great advantage in the use of this agent, that the administrator must attend to the anæsthetic all the time, he cannot watch the operation and forget the patient for a few seconds, his whole attention must be given to keep up its action. We have often felt sure that the wet napkin, from the water, in the ordinary ether pressed over the patients mouth by the weight of the body of the persons giving the ether, and watching the operation, were the indirect causes of the death of the patient. As an anæsthetic in labor, it has peculiar advantages in that it is so rapid in its effects, and the patient is comforted between the pains, but never passes into such a state of profound anæsthesia, that she is not aroused by the expulsive effort, and has all her consciousness about her; and there are none of the depressing effects of ether or chloroform. It is also most valuable in these cases in changing the position of the child, also in bringing forward the neck of the uterus into its proper position. In none of my cases was there disturbance of the bowels, pain in the back or head. To the country practitioner, who has to extract teeth or perform all the minor operations in surgery, it is a great boon, as it acts like nitrous oxide gas; it is well where a number of teeth are to be extracted, that a prop of hard wood attached to a string should be used so as to prevent such an accident as once occurred in Philadelphia under the use of nitrous oxide gas—the swallowing of a prop of cork. In many cases in which we do not want a very profound narcotism with hydrobromic ether, the muscles of the patient become rigidly contracted. This condition occurred in a recent case, when we administered ℥i of this anæsthetic and the operators finger was caught and pinched, as also his forceps; and yet before operating we could touch the cornea with impunity. Although the impression passed away very rapidly, we extracted twelve teeth with entire success, the patient promptly recovering consciousness, and not feeling the pain. In the following case the patient went under it very kindly: This patient was a man of very nervous temperament. With three drachms of the hydrobromic ether anæsthesia was produced without any struggling, and in four minutes from the time he had commenced to inhale it, the dentist had extracted ten teeth, and he had fully recovered consciousness, although he had just eaten a heavy breakfast of solid food. There was no nausea in either of these cases.

In a recent case of cataract extraction, the patient went beautifully under the influence of the anæsthetic, extraction was accomplished, and the patient recov-

ered so as to be able to count fingers, yet owing to some strong coffee which she drank, from dyspeptic symptoms, or the swallowing of water soon after the operation, she became very sick at her stomach, and vomited for almost twenty-four hours; and yet the case did well. In case of operation for torticollis in a woman, she swallowed so much air with the ether, that as a consequence she complained of pain, of a hysterical character, in lower part of the abdomen, the same which is often the result of nitrous oxide gas inhaled, and too much air admitted.

We received a letter from the late Dr. J. Patterson Cassells, of Glasgow, a distinguished aurist and a surgeon to the celebrated Glasgow Infirmary. He writes that he has used a specimen of the hydrobromic ether, which I gave him at Cork, as vapor, in diseases of the middle ear, and has also employed it as an anæsthetic with success.

As I have before stated,[1] "*no anæsthetic can be used with absolute safety.*" See "A Presumable Ether-Death from Heart Failure," by John B. Roberts, M.D., *Medical News*, Sept. 27, 1884; by the same author, "Ether-Death," *Medical Times*, June 4, 1881. "Case of Death following the Inhalation of Chloroform," reported by P. L. Helsman, M.D., Albany (Ga.) *Medical News*, Sept. 27, 1884. No anæsthetic has been yet found that is free from danger; all will kill. Chloroform kills in round numbers about one in every three thousand. Pure ether is, next to nitrous oxide, the safest anæsthetic, only seventeen cases of death, and many of these doubtful; but it requires boldness and freedom in its administration. If slowly or ineffectually administered it is apt to produce a free secretion of bronchial mucus, which occasions troublesome coughing. If nitrous oxide is administered alone as a prelude to ether, the secretion of mucus is less troublesome, but there is a great amount of venous congestion and the tissues become gorged with blood, so that every incision tends to bleed. Some surgeons use the mixture which is known as A. C. E., which contains one part by measure of absolute alcohol, two of chloroform, and three of Squibb's ether. This is not simply a mixture; the absolute alcohol,[2] 99.4 per cent., causes a solution of the other two and they evaporate together. But the mixture should be administered freely from a cone of felt or flannel, with a paper covering, and the desired effect should be produced as rapidly as possible. The best results are by the agents which produce rapid effects, and which are as rapidly recovered from. No other has produced such rapid anæsthesia as the hydrobromic, and it is the most rapidly recovered from.

There are certain conditions of the system that forbid the use of anæsthetics. Again, there are certain of this class of agents that should not be employed in prolonged operations, as, for instance, the "bichloride of methyline," bichloride of ethedene, and bromide of ethyl. One or two deaths have followed the improper use of each of these agents, even when recommended by a committee appointed by the British Medical Association and by Sir Spencer Wells.[3] As the result of the observations and experiments with the bromide of ethyl, my conclusions have been that one hour is the longest time that a patient should remain under the influence of this anæsthetic with safety;[4] just as is the case in the administration of potent remedies like morphine, atropine, hydrocyanic acid, etc.; no one will attempt to ignore or not use such valuable remedies because in certain individuals and under certain conditions of the system they produce death. Can we in all cases rely on the experiments on animals as a true and absolute guide to determine our course in the human being? We think not; for it is a well-known fact that many animals eat plants which are deadly poisons to man, and certain anæsthetics are fatal to dogs. Again, certain salts taken with impunity by man are poisonous to animals. Experiments in the laboratory with the prolonged use of anæsthetics of two hours[5] duration, cannot be taken as the results against those obtained by numerous careful observers on themselves and others. Clinical experience has now reached at least two thousand[6] well authenticated cases in which the bromide of ethyl has been employed with safety since 1880, when the two deaths were reported.

I will quote only a few of the many impressions and experiments with the pure bromide of ethyl.[7] The first is a gentleman very familiar with all the other anæsthetics, and his experience should be worthy of confidence:

The following trials of this new anæsthetic were made to test its merits and to obtain personal experience of its effects. For the record of occurrences after loss of consciousness, and for care and attention during administration, he was indebted to his friends, Drs. Pilate and Conklin:

First Experiment—March 14th. Four hours after eating a moderate breakfast he proceeded to inhale the bromide of ethyl, in the recumbent position, and from a bottle just opened labelled "1 oz. bromide ethyl." About one-fourth of the contents was poured into an Allis ether inhaler. The first and immediate sensations upon inhaling it were a sharp pungent impression on the air-passages, a sense of warmth rapidly extending, and exhileration. With the second inspiration he felt a decided influence upon the brain, and began to talk, anxious to continue speaking as long as possible, and to state his sensations. A rapid beating in the ears is a constant symptom with him in taking chloroform, and immediately precedes entire loss of consciousness. He marked its presence now, and also its early appearance. It could not have been later than the third, or possibly the fourth, inspiration when he noted it, and this, as with chloroform, was the last sensation.

[1] Ether fortior, liquid, 94 per cent. of oxide ethyl, 6 per cent. of alcohol, and a little water.

[2] Specific gravity .0716, at 77° F.

[3] Turnbull on "Artificial Anæsthesia," second edition, 1879.

[4] Messrs. Regnauld and Villejean (Lancet, July 6, 1884) have confirmed my statements (see page 65 of the last edition of my work) that the so-called "chloride of methyline" is a mixture of chloroform and methylic alcohol.

[5] Dr. B. A. Watson, Jersey City. "An Experimental Study of Anæsthetics." Medical News, p. 313, May, 1878. Method not given.

[6] Dr. Chisholm, of Baltimore. Md. Med. Jour., January, 1883. Dr. Prince, of Jacksonville. St. Louis Med. and Surg. Jour., October, 1883, and Dr. L. Turnbull, of Philadelphia. Medical Bulletin, June, 1880.

[7] "Two New Anæsthetics," by J. C. Reeve, M.D., Dayton, Ohio. Cincinnati Lancet and Clinic.

Upon opening his eyes after recovery from the anæsthetic, he immediately collected himself and could remember all; could talk clearly and had no confusion of thought. He felt a slight sense of nausea and a feeling of languor. Eight minutes afterwards he got up and walked about without dizziness, and was confident he could have done so sooner. He did not attempt it sooner because he felt that sickness would ensue if he arose. The feeling of nausea remained until he commenced eating his next meal, about forty minutes later.

Second Experiment.—Pulse at beginning, 80, just after ascending stairs, Two drachms administered. Symptoms began to be manifested after two respirations. Spoke of general warmth, pleasant sensations and beating in the ears. Anæsthesia produced in one minute and a quarter; in another quarter minute it was profound, as tested by a knife point. Pulse during the first minute ran up to nearly 100, then fell during next minute to about 70, feeble and intermittent. Pupils unchanged, normal; no struggling or excitement, but tetanic clutching of the inhaler so that it could not be gotten away only with difficulty. The anæsthesia lasted one minute and a half, then awakening without mental confusion. Pulse seven to eight minutes later, 64. He was not satisfied with this experiment, particularly in regard to the irregularity and intermittence of the pulse, not a very assuring symptom in anæsthesia, and a result not agreeing with other observers. He had a suspicion from this fact, and from the nausea, that the specimen was not pure. The bottle bore the name of a house which is always a guarantee of the good quality of medicines; but in the early period of manufacture of a new article, it would not be surprising if perfection was not immediately attained; he therefore obtained another specimen,[1] and one week after the above trial again inhaled it.

Third Experiment.—Being in the recumbent position, four hours after eating, one drachm, by measure, was poured into Allis's inhaler. He tried to take it slower this time, and count the respirations aloud to mark when conscious action ceased. He immediately felt the same grateful and pervading glow of warmth all over the body; counted to the seventh respiration; beating in the ears was again the last recognized impression. Pulse before, 80; at the end of the first minute, 120; one and a half minutes, at the rate of 100; at the end of two minutes, 78; no irregularity or intermittence. Pupils unaffected. Totally unconscious in one minute. Consciousness returned in three minutes.

It was his design to push the inhalation farther this time, and to test the muscular relaxation as well as to decide in regard to the irregularity of the pulse. Feeling that this had not been done, after about fifteen minutes he took it again.

Fourth Experiment.—Two measured drachms were poured on the inhaler, and he placed it over his mouth and nose. The impression was much stronger on the nose and air-passages, and the first inspiration made him cough. He then counted to the third inspiration, and was gone. Pupils the same as before, unaffected; pulse before taking, 78; at the end of the first minute, 124; one and a half minutes, 100; and of two minutes, 78; no irregularity or intermittence. Anæsthesia in one minute. At the end of three minutes from the time of beginning he got up and walked across the room, and could have remained up. As an effort at prolonged anæsthesia this was not, therefore, a success. In eighteen minutes he was on his way driving to see a patient. He had not the slightest nausea after these two inhalations; felt, if anything, better than before.

Fifth Experiment.—His next trial of the agent and first attempt at administration, was not satisfactory. The patient was a man aged about 50, a wiry, muscular fellow, of the type and build likely to give troublesome symptoms with any anæsthetic. He was placed on the table for an operation for hæmorrhoids, by Dr. Conklin. He had brought with him for the administration a large conical sponge, with which he constantly gave the A. C. E. mixture. Upon this he poured two drachms of hydrobromic ether and placed it over his mouth and nose. After one long deep inspiration his face became deeply flushed, and he soon began to talk and then to shout. More of the liquid was poured on the sponge; but his movements interfered with the inhalation of it with promptness; muscular rigidity then came on, and was marked; respiration was very nearly if not quite stopped for a time by tetanic spasm of the chest. These symptoms were almost as bad as he had ever seen from ether, chloroform, or the mixed vapors. He had seen worse muscular action and rigidity, but this was as bad as generally met with. During this time the ether was rapidly added until the supply was exhausted (13 drachms), and sufficient relaxation was not produced to make the operation feasible. No observations could be made, of course, of the patient's pulse. He recovered consciousness quite rapidly, as compared with other anæsthetics, and suffered no unpleasant after-effects.

This was not, of course, a fair trial of the remedy. The mode of administration was decidedly faulty. It is an ether, and must be given as an ether; and that this is imperative is the lesson to be learned by this failure.

"The personal experience with hydrobromic ether fully sustains the observations of others as to its exceeding promptness of action, and the rapidity with which recovery from its effects takes place. It is also more pleasant to inhale than chloroform. which is not very unpleasant, and infinitely pleasanter than ether."

In my own experiments on animals I found that frogs, placed in a watery solution of ethylic bromide, become as completely anæsthetized as if they were immersed in an aqueous solution of chloroform.[1] Berger states to the Société de Chirurgie (*Le Progrès Médical*) that he had been impressed by the rapidity with which these animals succumbed to its vapor. Terrillon administered the vapor of ethylic bromide to eighteen dogs without accident to any one of them. In the writer's more recent experiments with the vapor of ethylic bromide he crowded four ounces

[1] From the house of John Wyeth & Bro., Philadelphia.

[1] Opt. cit. "Artificial Anæsthesia." Turnbull.

(the quantity stated to have been used by the late Dr. Marion Sims, of a very impure article,[1]) upon a dog by means of a tin inhaler, in which was a sponge, strapped to his head, until he became apparently dead, with no perceptible action of the heart, or respiration; but the pupil was clear and dilated, while there was no secretion from the eyes or nostrils. The apparatus was removed, and in four minutes he began to breathe; and at the end of six minutes he had recovered consciousness, but was not inclined to move for ten or twelve minutes. In the beginning of the inhalation there was a good deal of rigidity and slight agitation. In twelve cases there was muscular relaxation, and in six a period of agitation; no death. In order to produce anæsthesia, it was advisable to administer the ether vapor very freely and without admixture of but very little atmospheric air, on account of its volatility.

In Terrillon's experiments muscular relaxation occurred in human beings in two or three minutes; at times there was congestion of face, neck and upper part of the chest. The pupils did not contract, but were dilated. The pulse was always quickened, and every fresh dose caused fresh acceleration. Respiration was always hastened, and a hyper secretion of the buccal and pharyngeal glands took place. Sensibility and consciousness returned with great rapidity; vomiting was not uncommon both during insensibility and sometimes for hours after. Verneuil, at the same meeting of the Société de Chirurgie, stated that one patient, a woman, to whom he had given the vapor of ethylic bromide, was asleep in an instant; and Terrillon stated that anæsthesia may be produced in less than a minute. In our own experiments the shortest time necessary for primary anæsthesia was thirty seconds.

Dr. W. C. Wood found, by experiments upon animals, that if the vapor of ethylic bromide be given with moderation, anæsthesia may be produced without notable reduction of blood-pressure. In the experiments of Dr. C. C. Gay,[2] of Buffalo, the agent employed was evidently, from color and taste, impure, as was also that used by Dr. D. C. Wilkinson,[3] of Galveston, Texas. In Dr. I. C. Moore's cases the ethyl was abandoned for ordinary ether, even when the insensibility had not passed off, owing to the exhibition of so-called bad symptoms, great excitement, with intense and persistent retching and vomiting, with venous engorgements. The article was stated to be pure, and was from Wyeth & Bro.

The great demand for the article and the cost and care requisite, caused many imitations to be placed upon the market, and even the original manufacturers did not take sufficient time to purify it, so that for a time the article contained carbon bromide (C_2B_4), and free bromide and bromoform. These were found in the specimens employed by Dr. Sims, in the form of a brown acrid liquid, with a pungent and disagreeable odor. Twenty drops of this given to a rabbit which had previously taken two grammes (thirty grains) of pure ethylic bromide without the slightest ill effect, produced irritation of the gastro-intestinal tract, followed by death in eighteen hours.[1] As observed by Dr. Henry M. Lyman: "All experience shows that the administration of anæsthetics to such patients is attended with danger. Even sulphuric ether may prove fatal if the kidneys are seriously damaged, and pulmonary disorganization is a well-known source of danger during the inhalation of anæsthetic vapor. The administration of chloroform to such a patient would have been a very hazardous undertaking. The fatal results in these cases cannot be so charged against the particular anæsthetic employed, as against the exhibition of any anæsthetic agent whatever."

That ethylic bromide may be employed with ease and success, has been abundantly proved by the experience of many observers. M. Bourneville has administered it to a large number of patients in the Salpêtrière Hospital, for the arrest of paroxysmal hysteria and of epilepsy. He has also administered it daily by inhalation for fifteen or twenty minutes, with the fortunate result of considerably diminishing the frequency of the convulsive paroxysms. In several of these cases the temperature was depressed about half a degree centigrade during the act of inhalation. Immediately after the withdrawal of the anæsthetic the normal degree was recovered, and sometimes even surpassed. The pulse in about five hundred administrations was somewhat accelerated during the period of inhalation. In six instances only was retardation observed. Respiration in like manner was almost always accelerated. A copious overflow of tears was nearly always remarked. The urine never contained either albumen or sugar, and the quantity of the liquid was not affected. Rigidity of the limbs and tremor involving the upper extremities, were sometimes noted. Daily inhalations for a period of two months exercised no unfavorable influence over the general process of nutrition; five patients found their weight increased during this period.

There are certain preparatory precautions which are necessary to the safe inhalation of the bromide of ethyl:

1. All tight-fitting garments in and about the neck and chest should be loosened.

2. The saturated ethyl vapor must be inhaled almost to the exclusion of atmospheric air. The best form of inhaler is a thick towel folded in the form of a cone, closed at the apex with a large pin; between the folds of the towel place a sheet of newspaper.

3. Instruct the patient in advance to make deep and long inspirations. In the cone place about one drachm, by measure, and at once cover the nose and mouth with it, and do not remove the cone until anæsthesia is produced, which will be in from twenty to thirty seconds.

The anæsthetic sleep will not last more than from two to three minutes. The patient retains the usual healthy color of lips and skin, and the pulse first becomes rapid, then slower and stronger as the nar-

[1] The writer received this specimen of the article from his own hands, and after testing it found it very impure and of a brown color.
[2] Medical Record, July 17, 1880.
[3] Medical Record, May 15, 1880.

[1] D. S. Wolff, Am. Journal of Pharmacy, May, 1880. The writer also obtained a portion of the same liquid from Dr. Wolff, and on comparing it with the specimen from Dr. Sims found it to be the same.
[2] "Artificial Anæsthesia and Anæsthetics." Pp. 220, 221.

cosis becomes profound. The patient, as a rule, awakens suddenly and completely; but if there is nausea or much agitation, it is best for him to remain quiet and in a horizontal posture for some time.

Perhaps no operations are more painful than those on the eye, eyelids, or eyeball, in a sensitive person, and there is no anæsthetic that I have found so applicable as bromide of ethyl in such operations. I recently administered it for the removal of a deep-seated tumor of the eyelid, the operation being performed by Dr. Hermann Knapp, of New York. The patient took the towel in her hands and applied it to her face with about two drachms of the ether, and in thirty seconds she was so completely anæsthetized that she was not conscious of one particle of pain until the tumor was entirely removed; she had no nausea whatever, or any other disagreeable symptom.

Again, in operations on the diseased mastoid cells, I have employed it in some twenty cases with entire success, and in a very recent case in which the whole bone was diseased and much of it had been removed, an opening had to be made of a most painful nature. I administered the bromide of ethyl to this patient, who was very much exhausted by profuse discharge from a large cancerous growth. The patient went under the influence of this anæsthetic with the most delightful effect, not suffering at all from the operation, and going to sleep after it without a bad symptom.

We have, in times past, heard a great deal of the injurious effects of bromides, and at first we felt that it might be so, reasoning in a chemical way, and for a time we gave the hydrobromic acid and ether with great caution, never exceeding thirty drops three times a day. But not so now; experience has taught us that we can use it, if well diluted, up to sixty drops three times a day without any injurious results. To obtain its full physiological effects in epilepsy, certain cases of pulsating tinnitus aurium, and in preventing the disagreeable cephalic symptoms occasioned by quinine and iron in these various nervous affections, we have found it at times very satisfactory. The salts of this agent, bromine, can be and are used with the greatest freedom in the form of bromide of potassium, sodium, and lithium, in doses of grs. xl–℥vi, given in six days without the least fear of its injurious effects upon the most delicate stomach; and relieving, as by a charm, convulsions, epilepsy, whooping cough, sleeplessness, headache, cerebral disturbance, tetanus, and all forms of mental derangement.

As well-observed by Dr. Chisolm:[1] "For office use I find the bromide of ethyl invaluable on account of its promptness, efficiency, evanescent nature of the anæsthesia, indeed, the absence of nausea, and the perfect comfort with which patients operated upon can leave my office within a few minutes after the ethylization."

Bromide of ethyl should never have taken the place of chloroform or sulphuric ether where any tedious operations are to be performed; but there is no reason why this useful anæsthetic should not be employed in all operations in minor surgery and in those on the eye, ear, throat and nose, having everything ready in advance so that the patient shall be as short a time as possible exposed to the evil effect of an anæsthetic.

I conclude this brief paper by the results which I obtained, and the conclusions I then arrived at (1879), and I still consider them my firm opinion at the present time, after using the article from 1878 to 1884 in all my office operations:

	Minutes.	Seconds.
Shortest time taken to place a patient under the primary anæsthetic influence	0	30
Longest time	5	00
Average time	1	30

I did not then advise that bromide of ethyl should be resorted to in protracted operations, and I never have employed it in any case longer than forty minutes, and have never used more than four ounces of the pure ether in one case.

1502 Walnut St., Philadelphia, Oct. 12, 1885.

[1] Maryland Medical Journal, January, 1883.

NERVOUS PAROXYSM.[1]

BY HENRY T. BYFORD, M.D.,

OF CHICAGO.

On account of the frequency with which syncope, shock, collapse, hysteria and other pathological conditions have been confounded in the diagnosis of the intelligent practitioner, I have considered it worth while to record a few cases of a hitherto obscure form of nervous paroxysm; with the object in view of separating it from the several diseases with which it is confounded, and of investing it with a distinct entity.

I copy the following case from the *Obstetrical Journal of Great Britain and Ireland*, for October, 1874:

"On Sunday morning, April 5th, I was called at 9:20 to see Mrs. C., aged 41, in labor of her tenth child. I reached the house at 9:50, and found child and placenta attached expelled. The nurse did not arrive for half an hour after I reached the house, but an intelligent servant informed me the child had been born fifteen minutes prior. I found the uterus perfectly contracted, no trace of hæmorrhage beyond what is usually lost, and her general condition perfectly quiet.

"After bandaging her securely, a well-adjusted pad being placed over the uterus, I admitted her husband, who congratulated her on her safe delivery. He remained for about twenty minutes, and then left the room. Five minutes had scarcely elapsed when I noticed some pallor coming over the face. Thinking hæmorrhage might have been the cause, I examined carefully and found none externally; then I opened the binder and removed the pad, with the same result. The uterus was well contracted. At this time the faint was well marked. I then gave tablespoonful doses of brandy with volatile ammonia, and applied synapisms over the heart and calves of legs. At the end of thirty minutes she began to revive, which was marked by *vomiting of hard boiled*

[1] Read before the Chicago Medical Society, Oct. 2d, 1885.

egg and seed-cake. During this faint I thought she died. The rally continued about thirty minutes. She then wanted to be raised in bed, and *complained of want of breath.* A pallor came over her countenance. I again examined for external and internal hæmorrhage, and found none. During this examination *she grasped my neck and raised herself upright.* I immediately placed her in a recumbent position, plied her with brandy again, and ammonia and beef tea. I called a consultation, but notwithstanding our united efforts, she never rallied from this. Half a bottle of brandy and half an ounce of volatile ammonia were used. I may mention she was an anæmic woman. *She suffered from mucous diarrhœa for a period of two months* (the sixth and seventh), which injured her health very much. Beyond a weak heart, I could find no other evidence of disease. Can you, or any of your readers, give any insight into this case?"

At one of the clinics in the Mercy Hospital, Chicago, during the winter of 1871 and 1872, I witnessed an operation for varicocele upon a young baggageman of an exceptionally powerful physique. One morning, a few days later, word was sent to the house-surgeon that the patient was dying. Armed with brandy and ammonia, the excited young graduate hurried to his bedside and, finding him in an apparently dying state, gasping for breath, commenced pouring brandy and ammonia down his throat. But the brandy, ammonia, electricity, raising of the foot of the bed, etc., all failed to prevent a fatal result. The heart was subsequently examined without realizing the cause of death. Two or three days later the body appeared in the dissecting room, as magnificent in form as on the day of the operation, but turned blue from the shoulders up, and marked with unmistakable signs of death from asphyxia. The sudden change from a life of great physical activity to absolute inactivity, in a horizontal position, along with the indulgence of a good appetite, had led to an attack of reflex cardiac disturbance, dyspnœa, and mental confusion. Unable to swallow properly, the brandy and ammonia had found their way into the trachea, and strangled him.

Four years ago I was hastily summoned to see a patient, convalescent from pelvic cellulitis, who was reported to be dying. I found her pale, haggard, bluish and sunken about the eyes, and gasping for breath. She was just getting over a paroxysm, and begged me not to let her die. I quieted her fears, and thus made her easy for the time, but gave her no medicine (although she had a mild attack of dyspnœa soon afterwards), except cold water to drink and mustard to the epigastrium. During the two paroxysms which she had before I came, *her breath seemed to leave her; and once she threw herself out of bed in her distress.* Great exhaustion of course followed each attack. She could not tell whether she had entirely lost consciousness or not, but described her physical and mental suffering as infinitely greater than during her ordinary fainting spells. Her attendants all thought her dying.

Although previously unable to take any but the lightest nourishment, she had that day, against her inclination, *been fed a large bowl of thick pea-soup and a poached egg on toast.* As the attacks were soon over, I gave no emetic. The pulse remained at 120 and the temperature near 100° F. for two days, when they became normal, almost at once, *after the vomiting of a large quantity of dark grumous material.* She then had no more trouble. Had ammonia been poured down her throat during one of the paroxysms, her death might have been as great a mystery as was that of the two other cases related. The dyspnœa and distress, already existing, would mask the fatal action of the irritant upon the glottis and trachea.

The three cases explain each other. The parts of the first case which I have italicized show it to have been no ordinary faint. Its similarity to the third case mentioned (see italics), in which the patient, almost an habitual fainter, recognized a great difference, make it appear like a similar, but perhaps severer, paroxysm. The second case could hardly have been a case of failure of the heart's action, but is chiefly interesting in showing how the treatment may be infinitely more dangerous than the disease.

The following is a mild case from notes taken at the time of attendance:

Mrs. T., aged 33 years, with three children, was treated by me a couple of years ago for sterility of four or five years' duration. The uterine disease present did not seem to cause any inconvenience. She bore a child twelve months ago, and had felt well up to the time of this sickness. Is plump and well-nourished. While listening to a funeral sermon in church she was attacked with a feeling of smothering about the heart and chest, and a feeling of weakness and trembling in the limbs. She experienced a peculiar sensation of swelling about head, with great mental confusion and alarm, and had a great fear of falling dead as she had heard of others doing. She hurried out of church, and was soon relieved by cool air and cold water douches. Two days later she had another attack during regular services at church. Was taken with similar feelings the next day in the street car, on her way to my office. Had a feeling of heaviness, and spells of gasping, previous to attacks. She came to ascertain whether she had heart disease or was threatened with apoplexy. She exhibited a putty tongue and sallow skin, as well as other evidences of disordered digestion. A few days later she had still another paroxysm. A physician in the neighborhood, who was called in at the time, stated that her countenance evinced extreme anxiety, that her extremities were cool, her pulse somewhat depressed, and her mental condition one of nervous exaltation and confusion, as was subsequently proved by her contradictory statements. A few days after this she again had a slighter attack, in which cold extremities, head symptoms and anxiety were the most noticeable symptoms of which she complained. The treatment consisted, in the main, of dilute hydrochloric acid, laxatives, and antispasmodics (such as chloral by night and valerian by day), a simplified regimen, massage, and, later, quinia and other tonic measures.

It may not be amiss to relate here the case of Mrs. O., who was under treatment by the same physician.

Arriving at her house a little ahead of him, I noticed an acid mixture and a bottle of elixir of valerianate of ammonia, dated a day or two later than the occasion upon which I recommended him to give the same to Mrs. T. The patient complained of having had attacks of a sensation of fluttering and pain in the region of the heart, with great difficulty, and at times total disability of speech, oppression across the chest, queer feelings about the head, ringing in the ears, flashes of heat, headache and pain under the shoulder blades. In the less pronounced paroxysms, one or more of these symptoms would be absent; but in all, anxiety of countenance, and fear of immediate death, were prominent. The notion that she was to die in one of them kept up a mild condition of shock, and could not be got out of her mind. The pulse was fair, and the temperature normal. The tongue was decidedly coated. She had a great deal to say about a feeling of general weakness. After a careful examination, I could discover no exciting cause except prolonged emptiness of a disordered stomach.

She had had a miscarriage about seven months before, and had since received local treatment for an ulcerated cervix. Her sister was in an insane asylum. The attending physician informed me that she had been taken a month before with chills and vomiting, followed by evidences of malaria and hepatic derangement; and, although she at first improved upon quinine, iron and cholagogues, she had lately been getting weaker, was then bedridden, and subject to these paroxysms both day and night. He thought that her nervous temperament, the mischievous gossip and anxiety of her neighbors, and prolonged nervous debility, had conspired to render her partially insane.

We put her upon 15 minims of acidulated tincture of iron three times a day, a liberal but carefully systematized diet, and ammoniated valerian as might be found necessary. Strychnia was to be given as soon as the stomach would take kindly to it, and arrangements were made for getting her out of bed. We relieved her mind and gained her coöperation by promising a speedy and perfect recovery. Although her ailment was almost chronic, she did not have another paroxysm, and was able, four days afterwards, to travel two miles in the street cars to the doctor's office. The case was, upon the disappearance of the paroxysms, transformed into one of simple nervous debility.

The most common exciting causes, according to my experience, lie in the digestive system, although subsequent observation may give the cutaneous, osseous, sexual, and urinary systems some prominence. Debility, plethora, impure states of the blood, sudden changes of habits, severe strains upon vital forces, parturition, functional or organic diseases, etc., are predisposing causes.

The attacks are of a convulsive character, but differ from ordinary eclampsia in that consciousness is not usually lost, nor the voluntary muscular system always affected. Internal convulsions, or the laryngismus stridulus of children, is a disease of the same nature. Nightmare, and the sense of suffocation sometimes felt after the taking of heavy or irritating food upon a disordered stomach, may be considered as mild or modified forms. Shock may be, or become, a complication of severe cases, and cause them to be diagnosed and treated as syncope. It will be interesting and perhaps instructive to compare the prominent symptoms of the two:

TRUE SYNCOPE.	NERVOUS PAROXYSM.
1. Often preceded by a feeling of oppression about the epigastrium, or nausea and general malaise. Patients feel the attack coming on.	1. Often preceded by nervous irritation, heaviness about the stomach, and frequent desire to take a deep inspiration (gaping); sometimes by a feeling of nervous exaltation, or equanimity greater than usual. Onset is usually sudden.
2. Pallor, vacant expression of countenance, and mental calm in the beginning, with dullness of special and general sensation.	2. Pallor, anxious countenance, mental distress in the beginning, with acuteness of special and general sensation.
3. Muscular relaxation.	3. Muscular rigidity or activity.
4. Dyspnœa, if any, not distressful—objective rather than subjective.	4. Dyspnœa distressful—more subjective than objective.
5. Unconsciousness absolute.	5. Seldom absolute unconsciousness. Mental confusion or incapacity.
6. When not fatal, attack passes away rapidly, especially if patient in recumbent position.	6. Passes away gradually, more rapidly if head and shoulders be elevated.
7. Temperature normal or below (unless elevated by disease).	7. Temperature normal or above.
8. Seldom recurs if head be kept low.	8. Usually recurs, or threatens to recur shortly, even if patient lie down.
9. Heart's action greatly depressed.	9. Heart's action irregular, spasmodic, and only moderately depressed.
10. Seldom very disagreeable recollections of distress during the attack.	10. Very disagreeable recollections of distress during the paroxysms.
11. Stimulants afford relief.	11. Stimulants aggravate.

It will be observed that the attack is not at all related to syncope, with which it has been confounded, but is in reality a paroxysm or involuntary frenzy (usually of reflex origin), in which the interference with vital functions is due to spasmodic action, rather than relaxation, of the respiratory and circulatory muscles. In searching the books for a description, we will find that reflex syncope is made to include some cases. So-called hysteria receives many into its myriad arms, while nervous prostration and gastric irritation have been stretched to cover a large number.

The treatment may be conveniently divided into three parts:

1. Management of the paroxysm.
2. Removal of the cause.
3. Restoration of the disordered animal economy to its normal relations.

The management of the paroxysm requires more

calmness and patience, on the part of the physician, than active interference. And especially should stimulants, such as brandy and ammonia, be reserved. The indications are rather to diminish the anxiety, or shock, by assurances of a speedy recovery, and to allay the reflex nervous irritability by such remedial agents as massage, counter-irritants to the epigastrium, nape of neck, or spine, cool air, cool drinks or douches, and heat to the extremities. Valerian, cannabis indica, bromides, chloral and the hot bath may be resorted to when milder measures fail.

3100 Forest Ave.

A CASE OF RETAINED DEAD FŒTUS.[1]

BY J. A. DIBRELL, JR., M.D.,

OF LITTLE ROCK, ARK.

A brief report of a case of this kind, seen some years ago, in consultation with Dr. William Thomson, of this city, and Dr. D. H. Dungan, is deemed of sufficient interest to engage for a short time the attention of this Society. The case is believed to be an unusual one in several particulars.

Mrs. A., aged 32 years, of a rather delicate constitution, mother of two children, the youngest 10 years of age, had up to May, 1877, been regular in her catamenial periods, and had otherwise enjoyed her usual health. In quantity, her menses had always been very free, generally lasting five or six days. In this month her menstrual molimen made its appearance at the usual time, but had never in years before been deficient in quantity, and though always painful, was more so now than formerly. She had uneasy sensations, and greater discomfort than was her habit. Following this "period" in regular order, appeared the ordinary symptoms and signs of pregnancy, viz.: nausea, vomiting, changes in the color and size of the mammæ, and gradual enlargement of the abdomen. In June, July, August and September, her menses appeared at the proper time. She with good reason believed herself to be pregnant, though constantly oppressed with the fear that something was wrong. During three months she suffered continually with nausea, and her general health began to decline.

On the 20th of September, as nearly as she can recollect, she menstruated for the last time. This period was one of great suffering. The menses appearing regularly, though abnormal in quantity and character, in the presence of what were considered unmistakable evidences of pregnancy, was a constant source of perplexity and anxiety to the patient. She was confident at times that she was pregnant, and at others disposed to attribute her condition to disease. About this time, she experienced what she believed to be movements of the child. About October 1 she was more confident that she felt life. These movements were always vague and ill-defined, and she thought it quite possible that she might be mistaken altogether, but after this date she is very positive that she felt no movements whatever in the fœtus. On November 22, a sudden discharge of blood and water from the uterus took place, accompanied and followed by agonizing pains in the back, and later by bearing down pains. The patient kept her bed for five days, and labor not having terminated, but, on the contrary, the pains having become less poignant and less violent, she tried to get up, and leave nature to take its course. From this time on, there was always a fetid discharge from the womb.

During the month of December and half of January she had labor pains quite constantly, a period of repose then following.

Dr. Thompson, the attending physician, to whom I am indebted for the privilege of seeing this case, and also for most of the above history, had, during this long siege, repeatedly but ineffectually made efforts to stimulate the uterus to expel its contents, by means of oxytocics and sponge tents. The os was never dilated to a greater degree than would just admit of the introduction of the end of the index finger.

On February 11, 1878, I saw the case for the first time. The os, on examination, was found to be dilated to the extent already indicated. It was firm and unyielding. It was indurated and felt not unlike cartilage. The anterior lip of the cervix was enormously hypertrophied, suggesting at once the idea that the enlargement was due to a pathological growth rather than a simple hypertrophy. An attempt to forcibly introduce the finger into the uterus had to be abandoned in consequence of the suffering the procedure induced. A sound was tried, and passed two and one-half inches, but Dr. Thompson had previously been able to pass it to a depth of four and one-half, between the uterine wall and the secundines, as subsequent events appeared to prove.

The patient was now very feeble. She had had fever for some time, and was much exhausted by pain and anxiety. Since November she had a dark-colored and highly offensive discharge, and we believed her already septicæmic.

February 14, the case was again seen with Drs. Thompson and Dungan. The condition of the patient was much the same as it was at the time of my first visit, three days before, except that, on the 13th, the membranes were ruptured, and a discharge of water took place, in quantity fully as great as is commonly lost in ordinary labor. The uterus was now diminished in size, the fundus was midway between the umbilicus and pubis, having descended from a point two fingers' breadth below the umbilicus. Since this event, the pain had been almost continuous, but no further dilatation of the os took place. It was suggested that another attempt should be made to dilate the os with sponge tents.

The next day, February 15, Dr. Thompson succeeded in introducing three tents, which in a few hours dilated the os to nearly the size of a silver dollar. The feet of a fœtus could now be reached, and were finally brought down, the patient being under the influence of chloroform. Much difficulty was experienced in extracting the trunk, and the head refused to pass through the os. In making traction, as had been anticipated, the head separated from the trunk and remained in the womb. As the os was

[1] Read before the State Medical Society of Arkansas, April 23, 1885.

not sufficiently dilated to admit of the introduction of obstetric forceps, Loomis's placenta forceps were applied to the head. As soon as the head was seized, the forceps would slip and the head roll around in the uterine cavity. Some hæmorrhage now occurring, it was feared that in the introduction of the forceps the placenta had been partly detached, and our patient being in no condition to lose blood, further attempts to deliver with this instrument were abandoned.

Introducing the hand into the vagina, prolonged faithful efforts were made with the fingers to dilate the os, but without success. Two fingers could be introduced into the womb and carried beyond the head, but the delivery could not in this way be effected. Attempts were made to break down the head, but in this also we failed. A process of boring and scratching was now resorted to, by which means a hole was made through the scalp and skull, or in an interval between the bones, and the head was brought out on the end of the index finger.

The placenta was adherent; very soft and friable. In attempting to detach it, the fingers would pass through it, the mass offering but little resistance. In color it was of a pinkish hue; contained but little blood, and had evidently undergone fatty degeneration. Holding up a large piece between the fingers it would tear away from its own weight and fall to the floor.

The fœtus, we believed, had attained the age of at least four and one-half months, and had probably been dead about the same length of time, judging from the history of the case, and not from the appearance of the fœtus itself.

We had expected to find a highly decomposed fœtus, from the fact that the discharge from the vagina had for so long a time been of a putrid character. But in this we were mistaken. It had, indeed, undergone post-mortem changes, but there was but little odor. The tissues were soft, flaccid, and the skin, that portion which remained intact after rough manipulation, was of a deep red color. The brain was soft and almost liquefied. The trunk was nearly eviscerated during delivery.

This case, which made a good, but slow recovery, has connected with it several points of interest:

1st. The rather uncommon occurrence of the continuation of the menses for months after conception. A case of this kind pursuing a favorable course to the termination of gestation, is looked upon as a physiological anomaly, and but little importance attaches to it. But, occurring under the circumstances above related, it must of necessity weigh heavily in arriving at a diagnosis as to the existence or non-existence of pregnancy, a most important problem in all cases to be solved, and especially so in one where the character and reputation of the patient may be involved. In the present case, had we attached undue importance to this one symptom which was presumably present, to the exclusion of others, we should have been led astray. And any one confronted with cases of this kind must admit that there are various difficulties as to diagnosis, whether the contents of the uterus be a fœtus or a morbid growth. But notwithstanding these facts, it is often of immense importance to form a correct conclusion. But if, in the very nature of the case, a satisfactory diagnosis cannot be made, a very guarded opinion should be given. Medical literature contains the record of many cases where the loveliest characters and purest natures have labored for a time against the baleful and unjust suspicion of illegitimate pregnancy, based upon the opinion of physicians, which time alone proved was not pregnancy, but disease.

2d. The long-continued, determined, but fruitless efforts of the womb to cast off its foreign contents.

It is worthy of comment that the muscular contractions of the womb began shortly after the mother ceased to observe what she believed to be the movements of her child; that is to say, about the time it perished.

3d. The hypertrophied and unyielding condition of the cervix.

The length of time a dead fœtus may be retained and tolerated by the uterus seems to be indefinite. Cases have been recorded in which the devitalized fœtus has been retained, in some instances, for years, without giving rise to any great inconvience or impairment of the general health.

Dr. Bauer says that the length of time of retention of a dead ovum has more than a passing interest, beyond its pathological considerations, namely: a moral interest possessing vital bearings in a medico-legal point of view. The entire absence of decomposition which the fœtus manifests on expulsion, together with the fact that during its retention there has been at various intervals a discharge of blood from the uterus, supposed to be catamenial, may give rise to the mistaken, and perhaps embarrassing conclusion that the expelled ovum is the product of a conception as recent in date as the size of the fœtus would indicate without the consideration of retention after its death. Instances are not unlikely to occur wherein a woman becomes a widow at the first, second, or third month of gestation, the ovum at the period being blighted and remaining in utero to the utmost limit of gestation, and on expulsion presenting every appearance of an abortion of the mere common type. The *date* of *conception* becomes the delicate point, and an innocent woman suffers, perhaps, unjust accusation touching the purity of her character.

Playfair says, on the subject of the changes in the appearance and structure of the retained fœtus: "The extent to which the changes occur depends, to a great extent, on the length of time the fœtus has been dead, but they do not admit of our estimating with any degree of accuracy what that time has been."

Dr. McClintock, on the same subject, says: "It is not possible, I believe, to pronounce with any degree of certainty, from the appearance of the ovum, how long it has been carried in utero after being deprived of vitality—that in every case where our opinion is asked for as to the age of an ovum, it is a wise and safe rule to qualify our reply by saying that at the time its vitality *ceased*, it was of such and such an age."

NOTES ON THE USE OF ANTIPYRIN IN FEVERS.[1]

BY GEORGE N. ACKER, M.D.,
ONE OF THE ATTENDING PHYSICIANS OF THE CHILDREN'S HOSPITAL, WASHINGTON, D. C.

I desire to present for consideration some notes on the use of antipyrin in fevers, because during the past summer I have employed the drug in many cases of fever, and had such good results from it in all cases that I have come to regard it as an eminently useful, safe, and quick antipyretic. Though of recent origin, it has at once assumed a prominent place as an important medicinal agent, and appears destined to take a high rank as an antithermic remedy. It has suddenly and successfully sprung into favor, and as yet has not disappointed those who have used it in a rational manner. I am anxious to learn from the experience of those present whether they have observed in their cases any unpleasant effects following its use, for as yet I have not seen any of the bad symptoms which have been attributed to it.

The chart of several cases in which I employed the drug in my service at the Children's Hospital will illustrate better than words can express the good effect of the medicine in these cases. Dr. Kolipinski, the resident physician, to whom I am indebted for the notes, informed me that there were no bad effects following the use of the drug in these children. It was given in the first case in 5-grain doses, hourly repeated until 30 grains were given. In the second case, a 5-grain dose was given every three hours until 36 grains were taken.

Case 1.—Colored male, æt. 6 years, hectic fever, the drug was given several times, and each time the temperature was kept down by it. This was a tuberculous case in which there was a subnormal morning temperature, and an evening rise to 104°. The first day the chart gives:

1st. Morning temp. 97, resp. 32, pulse 108; evening temp. 98.5, resp. 44, pulse 112.

2d. Morning temp. 97, resp. 32, pulse 100; evening temp. 98.9, resp. 40, pulse 110.

3d. Morning temp. 98, resp. 30, pulse 100; evening temp. 102.2, resp. 48, pulse 120.

4th. Morning temp. 98, resp. 36, pulse 112; evening temp. 102.8, resp. 52, pulse 112.

5th. Morning temp. 97, resp. 32, pulse 104; evening temp. 102, resp. 44, pulse 120.

6th. Morning temp. 97, resp. 32, pulse 104; evening temp. 99, resp. 40, pulse 108.

7th. Morning temp. 96,6, resp. 36, pulse 107; evening temp. 98.6, resp. 28, pulse 100.

8th. Morning temp. 98, resp. 40, pulse 126; evening temp. 100, resp. 44, pulse 128.

9th. Morning temp. 98, resp. 40, pulse 112.

The drug was given the first and sixth days. It had the effect of keeping the temperature down the same evening and several succeeding evenings, and the fever did not ascend so high as before the medicine was given. Later on, the drug was again used on account of the high temperature. On the evening before the temperature was 102.4. The next day it was: morning, 99.2; evening, 99.2.

2d day. Morning, 97.5; evening, 101.

3d. Morning, 99.4; evening, 98.6.

4th. Morning, 98.6; evening, 101.

This was repeated each time the temperature became high, with always the same happy effect.

Case 2.—White male, æt. 6, typhoid fever. The drug did not act as well as in the first case, because the doses were not given close enough together to produce a good effect; yet the chart shows that the temperature was favorably influenced by the medicine. In this case the temp. had been 103.5, resp. 24, pulse 140.

1st. Morning temp. 101.5, resp. 44, pulse 132; evening temp. 102, resp. 34, pulse 132.

2d. Morning temp. 98, resp. 36, pulse 124; evening temp. 102.5, resp. 52, pulse 120.

3d. Morning temp. 99.8, resp. 48, pulse 132; evening temp. 102, resp. 32, pulse 116.

Thus the antipyrin, given the first day about noon and continued in 5-grain doses every three hours until 30 grains were taken, had the effect of holding the temp. several degrees below what it had been before it was administered. It was given again in this case with good effect. The pulse and respiration records prove that these are not influenced by the medicine, and I may add that this was found to be the case with all the patients on whom it was tried.

Recently, in a case of typhoid fever in a man æt. 30, colored, I kept the temperature below 100° by the use of the antipyrin. It did not have any effect on the evolution of the disease, yet the general symptoms were ameliorated by it. In this case, grs. lx were given in hourly doses of gr. xv. During the past summer, I gave it with beneficial effects in several cases of malarial fever. One case, male, white, æt. 12, had had a high fever with delirium for three days. When I first saw him after this attack the temperature and pulse were normal, but the next day the boy had a temperature of 102.5, pulse 120, and was slightly delirious. Fearing an attack of the same nature and length as the previous one, I gave him at once gr. xv of antipyrin in water, and directed gr. xv more to be given in an hour's time. He slept most of the day, and awoke in the evening without fever, and was feeling well. In this case it did not prevent a return of the disease, but cut short the attack, for I believe that without the drug the child would have had a high fever with delirium for several days, as quinine did not appear to influence the temperature.

Jahn and other writers have recorded during the past year splendid results obtained from the use of this drug in puerperal fever and febrile conditions due to operations on the abdominal organs (JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Vol. iii, No. 22). Dr. Samuel Macknew, in the *Lancet*, Sept. 5, 1885, has an article entitled "Notes on Some Cases of Typhoid Fever of a Cerebro-Spinal Type; Hyperpyrexia Treated by Antipyrin." In the cases detailed the treatment of high temperature by the use of antipyrin and sulphate of quinine was well contrasted. The former, in two doses of gr. xxx each, reduced the temperature from about 104° to near normal every time it was administered, whereas sul-

[1]Read before the Medical Society of the District of Columbia, October 14, 1885.

phate of quinine failed to have any effect, though given in two doses of gr. xxx each, two hours apart. The tendency to high temperature was well controlled by frequent and regular doses of antipyrin. He employed it on 102 occasions in eight cases. The sulphate of quinine was the only other febrifuge used, but its use was, however, quickly abandoned when the pronounced superiority of antipyrin in this respect became apparent. Among the disadvantages of the use of antipyrin has been, according to some, the fugitive quality of the physiological action of the drug. According to Macknew, the effects of a full dose of gr. xxx rarely persisted longer than six hours, and in many cases for a shorter period. My experience does not bear this out, as I have found that full doses of gr. lx, given in hourly doses of gr. xv each, will keep the temperature down at least twenty-four hours and sometimes longer, and will influence the rise for a few days. In many cases the drug is said to produce a rubeoliform or scarlatiniform exanthema. Macknew found the latter on the face and neck unaccompanied by any itching or subsequent desquamation. Dr. Paul Ernst has reported some cases in which a papular eruption followed the use of the drug, but which ran its course, though the medicine was continued. He explains this by supposing that the system acquired a tolerance for the drug. The eruption was thickest on the body and extremities, the extensor surfaces being more covered than the flexor. I have never met with this manifestation of the drug in my cases, nor have I noticed nausea or vomiting, which are said to be caused by it. In some of my cases, I have observed the diaphoretic action of the medicine, but it has never been so profuse as to weaken the patient or give rise to any trouble. In a case of typhoid fever this appeared to do good, as it relieved the patient from the dry condition of the skin from which he had previously suffered.

May (*Deutsche Med. Woch.*, 1885) reports a case of collapse after the use of antipyrin. Burrs (*Lancet*, February, 1885) has reported a death following the exhibition of the medicine. Only gr. xlv were administered, in two doses of gr. xxx and xv at short intervals. The fever fell from 103.5 to normal, and then collapse ensued from which the patient never rallied. At the autopsy the brain, membranes and lungs were found congested. The spleen was enlarged and softened, with a number of infarcts. Infarcts were also found in the kidneys. He states that there can be no question—though the patient was undoubtedly very ill—but that the extreme depression accompanying the fall of temperature was directly due to the action of the drug. In other cases it had acted well, holding the fever in check ten to twenty hours.

Prof. Penzoldt directs that in children as many decigrammes be given as the child is years old, repeated three times at intervals of one hour. If this dose does not suffice for the production of a decided effect, then it must be increased decigramme by decigramme. In adults, most writers have stated that they had given 60 grs., divided in two doses of gr. xxx each. I have found it best to give gr. lx, divided in four doses of gr. xv each, and give them at intervals of an hour. This has had a decided and continuous effect on the temperature.

We must greet with pleasure the advent of any drug that will lower the temperature in typhoid and tuberculous fevers, and if we have found in antipyrin this long sought for agent—as I think we have—it will be a great boon to patients suffering from these diseases. It is certain that we cannot resort in many cases of typhoid fever to the cold treatment (baths, pack, etc.), and I do not think that it is always advisable to do so; for besides the prejudice of the American people against this method of treatment, I am not certain but that in certain cases it does harm. Large doses of sulphate of quinine, which has been used in these cases to reduce the temperature, do not always have the wished for effect, but, on the contrary, sometimes do harm by increasing the head symptoms. Antipyrin, on the other hand, relieves the delirium and disturbed sensorium. This is also the best remedy we have to reduce the hectic fevers in tuberculous patients. In fact, it is about the only drug that will certainly keep down the temperature in these cases.

It is true that the natural evolution of diseases is not arrested by antipyrin, yet, by controlling the hyperpyrexia, and consequently the degenerative and wasting processes due to it, the drug is invaluable, and will doubtless in the future take an important part in the pathogenetic and expectant method of treatment of the zymotic diseases.

MEDICAL PROGRESS.

MATERIA MEDICA AND THERAPEUTICS.

STYPTIC OR HÆMOSTATIC ETHER.—DR. B. WARD RICHARDSON gives us an ether which, while checking hæmorrhage by cold, overcomes the subsequent relaxation of the vessels by its constringing action. He has had prepared a solution of absolute ether, having a boiling point of 95° Fah., charged to saturation at a low temperature with tannin, and afterwards treated with collodion, a little short of saturation. The compound ran easily through the spray tube without blocking; it produced good local anæsthesia, and it possessed an agreeable odor. He tested it in a few drachms of blood which had been deprived of its fibrin by whipping, and then left for two days exposed to the air until it underwent partial decomposition. The blood was placed in a saucer at the temperature of the body, the spray made to play upon it, and in five seconds the whole mass of blood was so thoroughly solidified that the saucer could be turned upside down without any escape of fluid. The blood was also deodorized, and remained inodorous for ten days.

When styptic spray is directed on an open bleeding, living surface, the primary effects are those produced by the cold—namely, the condensation and whitening of the tissues. If blood be flowing, it solidifies, and when the parts relax, new blood that may ooze up enters the solid blood as though it were a sponge, the coagulation soon stopping further flow.

The elements of this process are three in number:

1. The immediate constringent effects of cold on the blood-vessels.

2. The styptic action of the solution on the fibrin and albumen of the blood.

3. The extreme mechanical fineness of distribution of the fluid on the bleeding surface.

Styptic ether can also be applied to the hæmorrhagic surface after the extraction of a tooth, for hæmorrhage from cancerous disease of the uterus or other cause; and in cases of hæmorrhage from piles. —*The Asclepiad*, July, 1885.

MEDICINE.

Intra-Capsular Injection of Water in Cataract-Extraction.—At the meeting of the Ophthalmological Society of Great Britain, on October 15, Dr. W. A. McKeown read a paper on this subject. His method consisted essentially in the substitution in the operation of extraction of a washing-out of the cortex for the pressing, rubbing, and scooping out. His method of operating was as follows. He made the small flap-section of the cornea above with puncture and counter puncture in the sclero-corneal margin, and cut out about half a line from the corneal margin. He always performed iridectomy. After lacerating the capsule freely, and expelling the lens if any cortex were left behind, he introduced a perfectly clean "scoop-syringe" well within the capsule, and injected gently distilled water of the temperature of about 100° Fahr., making gentle motion at the same time with the scoop to facilitate removal. He had now used the scoop-syringe in all thirty-nine times. In one case only was there irido-choroiditis, with complete closure of the pupil; good perception of light was retained. In another case, there was most insidious iritis, beginning after the patient's discharge from the hospital; it went on to closure of the pupil, but there was a good prospect from iridectomy. In the case of a syphilitic subject, there was a severe iritis arrested by artificial leeching and mercurial inunction. In no case was there suppuration of the eye or of the cornea, and in no instance was there escape of vitreous humor from the use of the syringe. Even in two cases of traumatic cataract, the syringe was used with advantage, notwithstanding the previous escape of vitreous humor. In a few cases some iritic adhesions formed, as commonly occured in ordinary cataract-operations, but caused no pain or diminution of vision. In twelve cases, the cataracts were unripe, and in several the cortex was very sticky. In the last thirty cases, he had had only one inflammation, and that was in the case of the syphilitic subject above referred to. There were two cautions to observe; first, after iridectomy, to get the blood out of the anterior chamber as quickly as possible; secondly, to be careful to introduce the scoop within the capsule. He did not believe in operating against time, but there could be no doubt that the quicker the work could be done and the eye bandaged, the better. He timed the duration of the last eleven operations from the introduction of the speculum to the application of the bandage. It varied from six to fifteen minutes, the average being about nine minutes. The operations were all done without chloroform, and some of the patients were restless. The conclusions which he thought he might draw from his own experience were: (1) that the judicious injection of water within the capsule of the lens was innocuous; (2) that it was not liable to cause loss of vitreous humor; (3) that it was advantageous both in ripe and unripe cataracts; (4) that it shortened the average duration of cataract-operations; and (5) that it was a most efficient means of clearing the wound.—Mr. McHardy said that the method might be used for ripening immature cataract, and to facilitate the removal of cortex at the time of extraction. The method of trituration as advocated by Foster, the extraction being preceded by preliminary iridectomy, had been, in his hands, followed by no disagreeable results. He had, however, noticed a loss of vitreous, which he was not accustomed to see in lenses that had spontaneously matured. Posterior synechiæ could be broken down at the time of operation. There might be danger and difficulty in getting the nozzle of the syringe within the capsule. The capacity or water in removing the cortex was well known, and if he had to deal with a "sticky" cortex, he usually took the speculum out, closed the lids, and allowed the aqueous humor to be secreted into the open capsule; then, manipulating with the spoon, it was not at all difficult to remove the cortex after the aqueous humor had acted on it.—Mr. Mackinlay inquired whether Dr. McKeown used cocaine. He thought the nozzle of the syringe rough, and that it might be improved.—Mr. Critchett mentioned that M. Panas, of Paris, irrigated the anterior chamber in cataract extractions, but the stream was produced by an assistant.—Mr. Adams Frost asked whether the method could be employed for lamellar cataract. It seemed to him to be a sound surgical procedure, and preferable to the use of the scoop or manipulation.—Dr. McKeown, in reply, said that he did not employ the method in simple cases. He had not had any trouble with the instrument. The operator should get the instrument in behind some of the cortex of the lens. He did not see why it should not be employed in lamellar cataract. He now always employed cocaine.—*Brit. Med. Journ.*, Oct. 24, 1885.

Apomorphine in Croup and Bronchitis.—Dr. Stutz, of Neuminister, is loud in his praises of apomorphine, subcutaneously injected in diphtheria complicated with croup, and in primary croup itself. Of ten of these latter cases, he lost only one, and this he attributes to his not having been called in quickly enough. Similar treatment is also very valuable in dyspnœa due to bronchitis. He has also been successful in cases of arsenical poisoning in children; and in one where a woman had such severe pharyngitis that she was quite unable either to swallow or speak. An apomorphine-injection quickly emptied the stomach of pus and mucus, and enabled her both to speak and swallow.—*Brit. Med. Journ.*, Oct. 17, 1885.

SURGERY.

On the Auscultation Signs in Vessel-wounds.

—The sounds heard with the stethoscope are among the most important that one finds in cases of arterial wound, and WAHL (*Deutsche Zeitschrift für Chirurgie*, Bd. XXI, Hft. 1), after carefully verified observations and experiments, has come to the following conclusions in reference to them: In the first place, he finds that in cases of partial division of the coats of the artery in which the cut is insufficient to allow the blood to escape from the vessel, though it may course for some distance between the coats, a distinct blowing or scraping sound, synchronous with the pulse-beat, is heard most plainly at the injured spot, though it is carried some distance along the coats of the vessel, and can be indistinctly heard a short space on each side of it. In most of these cases the pulse can be felt below the place of injury, though the beat is not so forcible as on the sound side. When a large vessel has suffered a gunshot or punctured wound, and the escaping blood is quickly brought to a standstill by the formation of a coagulum, a periarterial hæmatoma, which is generally without pulsation, is formed, and the stethoscope reveals a distinct murmur synchronous with the pulse. On the other hand, when there is complete division of the artery-tube, the ends of the tube retracting and completely closing it—and in all instances where the continuity of the blood-stream is broken, there is no sound to be heard at all, though the diagnosis is made sure by the absence of pulsation in the vessel below the wounded spot. If the ends of the completely divided vessel yield to the blood current again, a soundless tumor rapidly forms. The only exception to this rule is in cases where, through wound of the companion vein, there is a mingling of the arterial and venous blood streams. These observations, he says, are practically valuable from the fact that we can safely determine the condition of matters when the chief symptom, the bleeding, is absent, and can then instantly use means to prevent the secondary hæmorrhage which is so likely to follow.

DR. VON DÜRING (*Centralblatt für Chirurgie*, No. 16, 1885), cannot fully corroborate two of the results as laid down by Wahl. He relates a case of subcoracoid luxation of the humerus where violent attempts at reduction were followed by the rapid formation of a traumatic aneurism of the axillary artery. On cutting into the tumor, he found the vessel was completely torn across; the aneurismal sac was formed of layers of blood clot, the axillary remaining uninjured. In this case there was a well-defined whirring murmur as well as failure of the radial pulse, though the artery was completely severed and the vein intact. Düring's experiments upon animals he thinks, justify him in concluding:

1. That in the process of clot-formation the pulsation in the tumor very rapidly vanishes, except where the clot is very yielding in texture.

2. That the sound very quickly disappears in cases where, through previous ligature of the vessels, the lumen intima is wounded and thrombosis favored.

3. That the lumen of the tube often remains free; that in these cases, as well as in recent hæmatomata, a whirring sound synchronous with the pulse is heard, and that this is often accompanied by pulsation in traumatic aneurism, whilst pulsation may be absent in hæmatoma.

He believes that quick retraction and occlusion are not inevitable consequences of the division of a vessel. —*Medical Chronicle*, September, 1885.

TREATMENT OF NÆVUS BY SODIUM ETHYLATE.—DR. B. W. RICHARDSON overcomes the necessity for waiting for the removal of the crust which forms over a nævus after the sodium ethylate has been applied, and which sometimes results in fresh growth beneath, by applying the ethylate very freely at first, adding a second layer of it when all the watery oozing has ceased. This causes in three days an extremely firm crust. On the third day, while the crust is still firm, instead of removing it, he punctures through it in three or more places with a sharply edged flat needle, and with the needle breaks up the vascular surface beneath freely. On withdrawing the needle a few drops of blood exude from the needle points, which blood is taken up with cotton wool, pressing firmly so as to empty the surface entirely of blood. Then a little ethylate is applied over the whole surface. After four days, if, on pressing the crust, there is evidence still of fluid underneath it, the needle is once more inserted and used as before, but if the scale be flat and firm, it is allowed to remain until it falls off of itself and leaves an even and healthy surface.—*The Asclepiad*, July, 1885.

OBSTETRICS AND GYNECOLOGY.

EXPULSION OF THE FŒTUS IN ARM-PRESENTATION.—In a note on this subject MR. HERBERT THOMPSON says: I believe that the spontaneous expulsion of the fœtus in cases of arm-presentation is so rare, that the following case may perhaps be worthy of record. The mode of expulsion is well illustrated in Leishman's work on *Midwifery*, in which it is stated that Denman was the first to describe these cases, and was severely called to task by the eminent men of his day for suggesting the possibility of such an occurrence.

I was called to Mrs. N., in labor with her fourth child. The water had broken three days previously. On examination, I was unable to decide the nature of the presentation, but could tell that it was neither head or nates. On examination again, I found the arm hanging out of the vagina up to the shoulder, with very strong expulsive pains. I tried to introduce my hand to reach the feet, but the expulsive efforts were so great, that I was obliged to desist. I sent for chloroform but the messenger had scarcely left the room, when the patient said the child was coming. On looking, I saw to my surprise the nates coming down by the side of the arm. Another expulsive pain, and the legs appeared, the case being now resolved into one of ordinary breech-presentation. The head was easily disengaged, and a dead, but in no way decomposed, child was born, although the mother maintained that she had gone to her full time. The child was very small, which probably accounted for the ease with which it went through its acrobatic performance.—*British Medical Journal*, Oct. 24, 1885.

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THE PRODUCTION OF FEVER-HEAT.

We are told by various authors that the heat of fever is due to increased combustion of tissue, or to diminished liberation of heat, or to both together; either of which, theoretically, we might suppose would cause accumulation of heat, and account for the pyrexia. Most recent writers upon the general subject of fever content themselves with a statement of the vital changes that commonly accompany increased bodily temperature, with a mention of the theoretical explanations of the causes of the heat, and an acknowledgement that no satisfactory explanation has yet been devised.

We know that a destruction of tissue out of proportion to the nutritive matter assimilated occurs, and as a consequence heat is produced. While we have, however, more heat evolved from tissue-change in a feverish individual than would be evolved in a healthy person, living upon the same diet, no more tissue-change takes place, and no more heat is evolved, than would have occurred in a healthy man while subsisting on a liberal diet. We know also, that there is in fever great prostration, great loss of flesh, of strength, and of energy; not because of so great an increase in combustion or retrogressive change in the tissues, as on account of a cessation of assimilation and repair.

It is evident, then, that unless some other factor were present besides the production of heat, we would not find the bodily temperature raised above normal. In order to explain the increase of temperature, it is natural to turn to the mechanisms of the body, which manage normally the liberation of heat, for the necessary factor. We would expect to find them, in pyrexial states, so acting as to prevent the liberation of heat from the body, and thus contributing to induce its accumulation. This is in part true. In the earliest stages of many fevers, we find the bodily temperature raised, but the cutaneous capillaries contracted, the skin cold, the limbs shaking, and the teeth chattering in a chill. In fact, all the circumstances present are most unfavorable for the elimination of heat, and most favorable for its accumulation. Later on, in many cases, the skin is found harsh, although hot. In health, heat is eliminated and accumulation prevented, by exhalations of moisture from the skin and lungs. And the lack of cutaneous moisture in many cases of fever would point to a probable diminution of the liberation of heat. But this fact will not account wholly for the fever, since in very many cases in which the bodily temperature is highest, the skin is bathed in moisture, and every circumstance is favorable to the freest exhalation. We can also provoke perspiration by the use of drugs, and yet the fevered state persists.

Our hypothetical explanations of fever are, therefore, imperfect and insufficient, and any suggestions that will throw light on this most important pathological change, will be received with interest and pleasure. One worthy of thought has been made by DR. W. M. ORD, in a recent address before the Medical Society of London. Recognizing the inadequacy of our present explanations, he attempts to outline another. He asks the question, "Is the increment of heat of body in fever due not only to combustion or other disintegrative process thereto allied, but also to the persistence in the form of heat of energy, which should have taken another form?" "Throughout the body we recognize two processes ever going on, the building up of tissues on the one hand, their disintegration on the other. The disintegration of tissues is clearly attended by the liberation of heat. This upbuilding presents itself to me as necessarily attended by the consumption or disappearance of heat, which assumes some other form of energy, kinetic or potential." But Dr. Ord admits that he can find no experimental evidence to show that heat is used up in the formative processes of the body, to confirm his supposition that the increased temperature of fever is due to the accumulation of heat, which in health is utilized in the process of upbuilding of repair and tissue formation. Owing to this lack of existing evidence, he has attempted to create it. He noticed that in fruit there were two strongly contrasted processes and stages of development; the stage of growth, when formative processes predominate, and result in the production of cellulose

starch, etc.; and the stage of ripening, when destructive or retrogressive changes predominate and cause the formation of sugar. Fruit, therefore, offered in its two stages of development a good subject for experiments, which might throw light upon the utilization or conversion or destruction of heat in processes of growth. Dr. Ord used the growing and ripening cucumber for his experiments. The fruit grows mostly at its ends. If a uniform difference of temperature could be found between the air and the cucumber throughout its length, he argued that it would be due to evaporation simply; but if varying at different points along its length, it must be due to the vital processes taking place in it. He conducted his experiments by taking, with the same delicate thermometer, the temperature of the air about the plant, the temperature of water standing beside it, and, by thrusting the thermometer into the fruit, its temperature at different points in its length. By these experiments he found that the growing fruit is cooler in all parts than the ripening or cut fruit, and that it is coolest where growth is fastest, namely, at the ends. So far as these experiments go, they would confirm Dr. Ord's supposition that heat is utilized in processes of growth. His experiments were too few, as he admits, to make inferences sure; they are, however, suggestive, and may lead to important results.

Without doubt too little attention has been devoted to the study of the causes and consequences of lack of assimilation, of upbuilding and repair, which is as constant and prominent a phenomenon of the fevered state, as is the destruction of tissue, and the increase of temperature.

In applying these considerations Dr. Ord says: "I believe that, in the production of fever-heat, there is a first factor of increased oxidation, or combustion, or disintegration, setting free heat;" but he does not find this sufficient to account for all the increase of heat observed in pyrexia, and still more in hyperpyrexia. The further increment he believes to be furnished by heat going astray in default of correlative change in metabolism. Dr. Broadbent has formulated the problem thus: "If a theory of the febrile process is to be formed, it must be based upon a theory of the relation between the nervous system and the processes of nutrition and oxidation, and especially the latter." Dr. Ord further suggests that "in all fever, slight or intense, there is superadded to the combustion which we recognize an influence of the nervous system, a trophic influence, arresting processes in which heat should be transformed; and that the increasing temperature is determined by increase of this inhibitory influence." In speaking of how these speculations may bear upon treatment, he mentions the effect and value of baths, which he considers as moderators; they attract, so to speak, the attention of the nervous system, and draw it off from the dangerous paths in which it sets out. "In the treatment of hyperpyrexia, I know of nothing so trustworthy as the bath—cool, cold, or graduated;" and of these he prefers the latter.

DILATATION OF THE STOMACH IN CHILDREN.

PROFESSOR MONCORVO, of Rio de Janeiro, was the first to call attention, in 1883, to the frequency of dilatation of the stomach in children; claiming that it occurs as often, even in young children, as in adults. He showed at that time that the affection may be produced in newly-born children; and recent clinical observations have led him to conclude that the dilatation coincides, in almost all cases, with symptoms of gastric catarrh of variable intensity.

It is not a little surprising, however, that dilatation of the stomach in very young children is not, so far as we are aware, referred to by a single author who has written of the diseases of the digestive tract. The youngest child reported by Lafage as having dilatation of the stomach was ten years old, and Demme reports a case at six and a half years, which is the youngest reported by any observer other than Moncorvo. In fact, Welch, the latest writer on dilatation of the stomach, says that this affection is rare in childhood; but he adds that Kundrat and Widerhofer state that atonic dilatation due to overfeeding, and particulary to rachitis, is not infrequent in children—which coincides with Moncorvo's observations. Moncorvo finds that defective feeding is always a preceding factor in these cases; almost all the children were bottle-fed, though a very small number were fed on the mixed plan. All these cases had undergone the consequences of such feeding—vomiting, colic, and lienteric diarrhœa.

Besides the defective nourishment, the other hygienic conditions of these children, as regards dwelling and clothing, were bad; and their physical development was below par. In many of these cases, also, there was a history of malarial intoxication, and almost all of them were hereditarily syphilitic. It is a well recognized fact that hereditary syphilis, by its dystrophic action on embryonal life, affects all the organs to a greater or less extent, and the digestive apparatus second only to the respiratory. It is not difficult, therefore, to account for its causal relation to dilatation of the stomach. Severe malarial intoxication, especially such as is quite common

in the eastern maritime portion of South America, is often sufficient for the production of dilatation of the stomach. The gastro-intestinal complications and consequences of malaria need not be dwelt on at length to American readers. And while malaria is not given among the predisposing causes of dilatation of the stomach, by setting up a gastric catarrh, its influence as an exciting cause of this catarrh is very well known. Its influence in the causation of gastric ectasia is easily seen, however, when to a malarial condition is added a defective alimentary hygiene.

There are still other cases, says Moncorvo, in which the stomach is mechanically dilated by a constant excess of food when the children are hereditarily syphilitic or enfeebled by other diseases; but these cases are more rare. Lastly, in some cases there are no longer symptoms of dyspepsia or gastritis, and every trace of the cause, save the effect, has disappeared.

The diagnosis of dilation of the stomach in children presents many difficulties, especially when they are very young. Children do not take kindly to physical exploration, so that the diagnostic means recognized as advantageous in adult cases are used with them only with considerable difficulty. *Clapotage*, for example, recognized as a valuable symptom in adults, is obtained with great difficulty in children on account of the energetic contractions of the abdominal walls produced by crying. Another useful means of diagnosis in adult cases, the noise produced by the falling into the stomach of a liquid swallowed "by gulps" while the epigastrium is auscultated, cannot be employed in young children. Moncorvo therefore employs what he terms "plessimetric gastro-resonance," which is only a modification of the method of auscultatory percussion. The stomach is previously dilated by giving the child 30 or 60 grammes of a ten per cent. solution of tartaric acid, following by a dose of the same quantity of a ten per cent. solution of bicarbonate of soda. As soon as the stomach is dilated the bell of a Constantin Paul stethoscope is placed over the centre of the epigastric region, and while he auscultates he suddenly strikes the region with the index and middle fingers of the right hand, commencing near the bell of the stethoscope and going around in concentric circles. The clear resonance heard over the dilated stomach, he says, is heard only over the area corresponding to the stomach.

In concluding his latest and very interesting paper, which is to be found in *Unido Medico*, of September, 1885, he particularly insists on the etiological relations already spoken of, and again claims that dilatation of the stomach is much more frequent in young children than is to be inferred by reference to published works. He states also that hereditary syphilis and paludism are the predisposing causes in two-thirds of the cases that he has seen. Some of the children are rachitic, but he believes that this affection is often the consequence of hereditary syphilis.

UROGLAUCINE IN THE URINE IN SCARLATINA.

M. Pierre Apéry, of Constantinople, calls attention, in *Les Nouveaux Remèdes*, of November 1, 1885, to the presence of uroglaucine (indigo blue) in the urine of scarlet fever patients. In a series of twelve analyses of urine from as many cases of scarlet fever, he found in every case a greater or less quantity of this substance deposited in small blue masses, which are so distinctive that they can scarcely be confounded with any other substance. Neubauer, Vogel, Kletzinsky and Schunck state that uroglaucine and urrhodine (indigo red) are sometimes found in the sediment of urine in cases of cystitis and Bright's disease, but rarely in the urine itself. But, so far as we are aware, Apéry is the first to announce the presence of the former in the urine of scarlet fever.

Uroglaucine may be recognized by filtering the urine and the deposits. The filtrate is then dried, and treated with boiling alcohol. This dissolves the blue materials and is colored violet, and on evaporation the uroglaucine is left with certain other matters, which are washed off with cold water. The uroglaucine is again treated with boiling alcohol, and by careful evaporation the small blue crystals are obtained (Yvon).

Uroglaucine, so named by Heller, is also called urocyanine, by Martin, and indigotine by Schunck. It has the same properties and composition, according to Yvon, as vegetable indigotine. It seems that it must be regarded as a product of the decomposition of indican or uroxanthine, which exists, according to Ritter and some other chemists, in small quantity in normal urine, but is increased in certain pathological states. The action of acids upon it gives rise to urrhodine, uroglaucine and glucose; and curiously enough the same transformation is affected by putrefaction. Casselmann and Strohl were probably the first to point out that indican is increased in diseases of the spinal cord and other grave affections. Hoffman and Ultzmann state, in their "Atlas," that *Harnindigo* (indigotine) is deposited spontaneously in a urine rich in indican; but it is probable that this takes place only after decomposition sets in. Though much work has been done, and much has been written, on the subject of urine pigments, it is still involved in much confusion and obscurity. Even the

light thrown on the subject by the most recent and best authorities is far from complete as to the nature and origin of these coloring matters.

It need scarcely be said that if Apéry's discovery be confirmed by other observers, it will be an important addition to our means of diagnosticating scarlet fever, which often varies so much in its symptomatology in different cases and epidemics that peculiar difficulties are sometimes presented in recognizing it. It is to be regretted, however, that Apéry does not indicate the period in the course of the disease at which uroglaucine first makes its appearance in the urine; and whether it is absent in those affections from which scarlatina is to be diagnosticated. It is to be hoped that he, or some other observer, will clear up these points.

AMERICAN MEDICAL ASSOCIATION—WORK FOR THE NEXT MEETING.

The summer vacations having fully passed, and the season favorable for literary and scientific work having returned, we would remind the officers and members of the Association that the time for the next annual meeting is fast approaching. The interest and profit of every meeting depends almost entirely upon the degree of attention that is given to the preparation of papers, and the study of questions for discussion in the several Sections. The Chairman and Secretary of each Section should actively solicit contributions from members who are eminent in the departments belonging to their respective Sections; and all who intend to prepare and read papers or reports should give early notice of the same to the officers of the Sections and to the Chairman of the Committee of Arrangements, that these officers may have ample time to arrange judiciously the programme of work for each day of the meeting. One of the prominent evils, hitherto noticeable at almost every meeting, is the haste and consequently imperfect manner in which papers are prepared. This arises, in a great measure, from the writers postponing the commencement of their work until it is so near the time of meeting that they are unable to complete it with proper care. Let everyone, therefore, who thinks he has anything worth contributing to the common stock of professional knowledge, commence its preparation now while there is time enough to do it well, instead of waiting for that "more convenient season" which generally never comes.

OFFICIAL NOMENCLATURE OF DISEASES. — We learn from a circular issued by DR. JOHN B. HAMILTON, Supervising Surgeon-General of the Marine Hospital Service, that on and after the 1st day of January, 1886, the revised edition of 1885 of the the Provisional Nomenclature of Diseases of the Royal College of Surgeons of London will be used as the official nomenclature for the U. S. Marine Hospital Service, instead of the former editions.

SOCIETY PROCEEDINGS.

MASSACHUSETTS MEDICAL SOCIETY—SUFFOLK DISTRICT.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

Stated Meeting, October 14, 1885.

(Concluded from page 556.)

DR. F. I. KNIGHT made some remarks on

RECENT METHODS OF TREATING HAY FEVER.

We all know how frequently the sanguine hopes aroused by some new form of treatment of disease prove delusive. We read of various suggestions and experiments, but there is a feeling against trying severe and protracted methods of treatment unless there is a reasonable prospect of benefit from such a course.

The history of "hay fever" is generally well known up to the time when it was first associated with the *pollen* period of certain plants. There is no longer any question with the majority of observers that the pollen of ragweed and various other pollen-producing plants acts in a large proportion of cases as the exciting cause. Dr. Beard was the first to make an advance in our knowledge of hay fever, which he did by collecting the history of many cases and examining all the circumstances attending the disease in many subjects and various localities. His researches led him to the conclusion that hay fever is to be ranked among the neuroses, and is the effect of a general or central disturbance rather than of a localized irritation. Dr. Daly, of Pittsburg, in 1881 proposed a local irritation as the cause of all the symptoms and advised the removal of the local condition of hypertrophy of the mucous membrane or other tissue by which the usual passages are obstructed. This he tried in a series of cases and observed that the disease did not recur in the succeeding seasons. Dr. Roe, of Rochester, uses the galvanocautery extensively and with great success.

DR. Sajous, of Philadelphia, considers that any mode of treatment by which an organic change is produced in the substance of the membrane may be followed by more or less complete relief from the disease, due to a modified condition of the anatomical structures at the seat of the local affection. He also recognizes the neurotic element of the disease and unites both theories in his conception of the disease. The local character of hay fever was strongly maintained by Hack, of Freiburg.

Dr. Harrison Allen, of Philadelphia, advocated the removal of obstructions, and thought that obstruction would be found in all cases.

Mackenzie, of Baltimore, thinks the name "hay fever" objectionable for many reasons, and proposes the new appellation "coryza vasomotoria periodica" for the whole class of cases heretofore known as hay fever, rose cold, June cold, etc. Mackenzie also mentions a case in which reflected irritation from ovarian disease seemed to be a factor in the production of this affection. These observations are the testimony of reliable observers. There is no mistake as to their accuracy; and they go to show the variety of circumstances and diversity of conditions under which this curious disease is met. The more recent ideas in relation to hay fever find expression in the systematic and persistent treatment of the local manifestations or complications of the disease, which has for its object the removal of the obstruction to the patency of the nares, whatever may be the seat, or nature of the obstruction and the cauterization of the sensory areas by means of the galvano-cautery carefully avoiding the olfactory region. The cautery, especially if preceded by the application of cocaine, is productive of but moderate local pain and its use has, in many cases, been followed by most gratifying results.

An example is the following case: A patient presented himself to Dr. Knight last spring, in whom the disease had recurred each year for seven or eight years, in very severe form, obliging him either to remain in bed or go to Bethlehem. Treatment was commenced by the removal of obstruction on one side, and the free use of the galvano-cautery in the anterior part of both nasal fossæ, while the very posterior parts were cauterized by chromic acid. This was deemed advisable on account of the possible danger of exciting inflammation in the middle ear by the use of the galvano-cautery. The result was a most notable relief though not complete exemption from the symptoms. Instead of going to bed, or even staying in the house, or going to Bethlehem, the patient was enabled to go about his usual business. He says in a letter, "the nasal symptoms were so much lighter, that instead of constant flow of secretions and much sneezing, as in former years, this year I have only been troubled by working in the sun, or by very warm dry days, when the discharge would be copious for perhaps half the day, with no filling up of the nasal passages to prevent me from breathing through nasal passages at any time. Asthma has troubled me hardly any, a very marked improvement, as it has formerly compelled me to sit up many nights. . . . On the whole I have been able to attend to my business every day; with comparative comfort most days, instead of the complete prostration by September 1st, of former years, and catarrhal cough lasting till winter. This year no cough to speak of and no asthma to care for." He also speaks of the complete relief from nasal catarrh during the early summer, which had been previously quite troublesome. Another thorough cauterization, especially in the posterior region, will doubtless be even more successful.

Correspondence with gentlemen who have heretofore spoken most enthusiastically in regard to the use of cautery in these cases, shows that the past season's work confirms them in their belief that at least a large proportion of cases can be cured, or radically relieved in this way. Dr. Mackenzie still insists on the importance of specific treatment of the neurosis as well as local treatment of the nose; and Dr. Roe still maintains the essentially local nature of the disease and its required treatment. Dr. Sajous thinks that superficial cautery, as formerly supposed by him, may not be sufficient in all cases, but that some, especially those with markedly nervous character, may require deep destruction of tissue.

We undoubtedly owe our patients who suffer severely from this disease, a trial of galvano-cautery, all serious obstruction having been previously removed.

Dr. Langmaid stated that his experience had coincided almost completely with that so clearly described by Dr. Knight, and he felt quite in the same way in regard to the disease. It is always important to discover the *cause* before instituting any form of treatment. It is a source of surprise that some practitioners discover such a large number of cases of hay fever. In a large hospital practice in diseases of the throat, there occurred last year but one (probable) case of hay fever. This year thus far, not a single case has appeared in the hospital clinic. In private practice the number of cases is quite considerable, and does not materially differ from the reports of other specialists. The disease is evidently to be regarded as a neurosis, and corresponds in all essential particulars to the observations of Mackenzie and Beard. A simple coryza may reappear periodically, and be produced by some cause which we cannot discover, but this is not necessarily hay fever. In hay fever there is always, either at the time of the attack or previously, obstruction of one or both nostrils; and no method of treatment can result in a permanent cure until this obstruction is removed. This must be done completely and thoroughly in order to be of more than transitory benefit. We are not prepared to say that a person with no obstruction in either nostril cannot have hay fever, but such cases must be extremely rare. The favorite theory of some specialists is that hay fever is due to some irritation of the "*sensitive areas*" within the nostril. These "areas" may be demonstrated by reducing the vascularity of the mucous membrane by means of cocaine, when many vascular points will still be visible. These are the "sensitive areas." They are very numerous and cannot be treated except by very extensive methods.

If the obstructive nostril is to be made patent, the first thing to decide, is the means to be employed for this object. Of all agents at our command, the galvano-cautery is undoubtedly the best. The écraseur, or cold loop, is unquestionably the safer. The chemical caustics, chromic or acetic acids, are not satisfactory. We are not yet prepared to apply so severe an agent as the galvano-cautery to the surface of the entire nasal cavity. The present methods of treatment are doubtless better calculated to relieve this distressing malady than those of former years, and will probably be of great service in very many cases, while some will still prove refractory to any known mode of procedure. The galvano-cautery is a means

too severe to be employed in light or temporary cases. We are not at present inclined to sear the entire nasal mucous membrane in the free interval of a case of slight, or even moderate severity. The whole question of the applicability of galvano-caustic treatment to the majority of cases of hay fever is still *sub judice*. In the meantime, we must not lose sight of the neurotic element in the disease; we must look at the general condition of the patient, his constitutional tendencies, etc. Our information will be more advanced by observation of large numbers of cases than by any prescribed plan of treatment. One of the most remarkable phenomena attending the disease is the development of the neurosis at the seashore, and its lack of development at Bethlehem.

DR. DE BLOIS said that he had seen few cases, but those were very interesting. Last summer he treated one patient by cauterizing the "sensitive areas" by means of chemical caustics, and the more the cautery was applied the greater number of "sensitive areas" were found, until both the operator and the patient were well nigh discouraged. A solution of cocaine was then applied with the happiest result, the relief being absolute. In this case, there was no obstruction previous to the paroxysm, and nothing to remove. After the attack had subsided, the nostril was entirely free from any obstruction or malformation. It is possible that the formation of cicatricial tissue throughout the nasal cavity might prevent hay fever by destroying the normal textures of the nostril.

DR. F. C. SHATTUCK remarked that Dr. Langmaid had observed that obstruction of the nostril is almost always present. Is not ordinary coryza usually accompanied by obstruction of the nasal passages, and how does hay fever differ from a similar attack of ordinary nasal catarrh?

DR. LANGMAID responded that sensitiveness of the conjunctiva is a recognized feature of hay fever. There is a notable relief when the obstruction is removed. Given a case of acute catarrh, it is impossible to say whether the case is one of simple coryza or the specific autumnal catarrh.

DR. KNIGHT remarked that for this reason some writers have suggested another name for cases of undoubted hay fever, that is, for that form of catarrh which depends on the specific irritation produced by a particular cause. Especially irritant in so-called hay fever is the pollen of the rag weed. Bethlehem affords immunity to many because this plant does not grow there.

There appears to be an unusual number of cases at present, owing to the fact that certain practitioners have relieved some forms of the disease by the more recent procedures, and as a consequence, many old and incurable cases present themselves and swell the number of actual cases to surprising figures. Cases of spasmodic catarrh are sometimes observed which are excited by unusual causes. A young gentleman who was married last January has had five severe attacks of bronchial asthma which invariably came on suddenly during sexual intercourse, and have been the cause of much suffering. The patient never had asthma before marriage, and never at all excepting that excited when cohabiting with his wife.

DR. LANGMAID stated that he had known patients in the Rangeley region and in Bethlehem to have a paroxysm during or after a south wind.

DR. PRINCE stated that one practitioner has reported several cases of inflammation of the middle ear from the extension of the irritation caused by the actual cautery, along the canal of the Eustachian tube.

DR. J. W. FARLOW said that a certain firm of manufacturing druggists had advertised tablets of cocaine for the relief of hay fever, and he had tried the remedy, with the result of a greater degree of irritation than was caused by the hay fever. Cocaine and bismuth diminish the sensitiveness of the membrane to a moderate extent, but they do not alleviate the tendency to sneezing. Cocaine and fuller's earth relieve the distress caused by the exquisite sensitiveness of the mucous membrane, but do not in the least restrain the flow of secretion. Cocaine in solution is quite useless. For the asthmatic distress as well as for reducing the flow of secretion, belladonna is of great service. Acetic acid has been of no service in two cases in which it was carefully applied to the mucous membrane. The actual cautery seems the best agent for most cases. One factor in regard to hay fever seems to be overlooked by the most of those who treat these cases. The susceptibility of the same patient varies from year to year. Dr. Farlow employed the remedy so strongly recommended by the Rev. H. W. Beecher, and the patient escaped hay fever. At a later period, the same treatment was absolutely without avail in the case of same patient. The susceptibility varies according to the general health of the patient. When the general health is bad, the attacks of hay fever are usually severe.

DR. KNIGHT'S experience confirms that of Dr. Farlow in respect to the curative power of cocaine tablets. In one case, the introduction of a single tablet was followed by the most distressing paroxysm of the entire season.

DR. FARLOW added that the cocaine tablets in the mouth afforded great relief to intolerable itching of the roof of the mouth and the palate, and this may contribute to the comfort of the patient.

DR. KNIGHT remarked that most gratifying results had been observed after the introduction of cocaine into the eye. The pain and lachrymation were quickly and completely relieved.

DR. BLODGETT spoke of a peculiar case which came under his observation, in which very severe attacks of asthma, with complete obstruction of the nares, lachrymation, itching of the mucous membrane, sneezing, and all the other discomforts of typical and severe paroxysmal catarrh, were induced in a young gentleman by drinking champagne. No other cause had ever produced the paroxysms in this patient; and recently the susceptibility to catarrh has become so modified that a moderate quantity of champagne can be drunk without the occurrence of a paroxysm.

DR. KNIGHT said that he had known of one similar case.

DR. EDES stated that ipecacuanha is a substance which causes paroxysmal catarrh in some sensitive persons. Dr. Edes himself is made very uncomfortable by inhaling the smallest amount of this drug.

Dr. Langmaid added that green coffee has a similar effect upon many people, and that grocers are well aware of this peculiar property of coffee and usually seek to keep out of its danger. Certain other substances also possess the power of exciting paroxysmal catarrh in those persons who are peculiarly sensitive, or who suffer from a personal idiosyncrasy in respect to these special irritants.

MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

Stated Meeting, October 14, 1885.

The President, W. W. Johnston, M.D., in the Chair.

Dr. G. N. Acker read some

NOTES ON THE USE OF ANTIPYRIN IN FEVERS.

(See p. 571.)

Dr. King asked if Dr. Acker knew the chemical constituents of antipyrin.

Dr. Acker had seen the formula, but could not now recall it.

Dr. S. S. Adams was glad Dr. Acker had brought up this subject, for the profession in this city seem loath to try antipyrin. He had been one of the first to use it here, and had been gratified with his experience. He first tried it in a child æt. 18 months, suffering with pneumonia. A high temperature prevailed despite the use of quinine pushed to cinchonism. The child was delirious and death seemed imminent. At one o'clock in the afternoon the temperature was 104.6° F. He ordered a solution of antipyrin, two grains to be given every hour until six had been taken. At 5:30 the temperature was down to 99.5° F., and the respiration and pulse could be counted, a feat not possible four hours previous. At 10 o'clock the temperature began to reascend, and was just as high the next day; but again responded to the same treatment. Before the three doses were given a profuse sweating would set in. Double catarrhal pneumonia supervened, and the child finally died of exhaustion.

The second case, a girl of fifteen, had diphtheria. Her temperature was 105° F., and she had been delirious several hours. Twenty grains of antipyrin reduced the temperature two degrees, and restored the child to consciousness. The next day, however, the delirium and fever were as great as before. Antipyrin was not again tried, and the child died. He had been called to this patient in an emergency, and the attending physician would not consent to any further use of antipyrin.

Dr. Magruder had no personal experience with the drug, and had come here this evening to learn about it. He had been recently reading in the journals the experiences of others, and they spoke of it with but little favor. It seems to have a pernicious effect upon the kidneys, and the poisoning is similar to that of carbolic acid.

Dr. McArdle had some little experience with antipyrin, and was not favorably impressed with it. There was no doubt but that it would reduce temperature, but in many diseases such a reduction is of doubtful necessity, unless the patient is suffering from hyperpyrexia. The speaker had recently used antipyrin in a case of typhoid fever, and he and the family were much alarmed at the exhaustion and depression following the use of ten grains of the drug in a child.

Dr. Marmion decried the use of a drug of which we do not know the chemical constituents.

Dr. Acker closed the debate by declaring that antipyrin is not a secret remedy, and that the chemical composition is given in the journals. He did not agree with Dr. McArdle as to the danger of antipyrin. Depression due to the disease may sometimes be erroneously attributed to the effect of the drug. As to its effect on the kidney, it is eliminated by that organ and a previously diseased kidney may suffer. Whilst antipyrin does not have a permanent effect on the temperature, it lowers it gradually from day to day. He had found it excellent in tuberculous fevers.

Dr. S. B. Lyon reported a case of

RUPTURE OF THE RECTUM AND PROLAPSE OF THE SMALL INTESTINE.

(See Journal, Nov. 14, p. 541.)

Dr. Schaeffer asked if the rupture was within reach of the patient's finger.

Dr. Lyon said it was fully six inches beyond the anus. He inferred that the patient had pulled down the bowel before inflicting the injury. There was thinness of the walls in spots due to traumatism; but there was no evidence of ulceration.

Dr. Hamilton asked the condition of the rectum at the point of rupture.

Dr. Lyon said it looked something like a buttonhole. The protruding small intestine was gangrenous.

CHILD WEIGHING ONE POUND AND A QUARTER AT BIRTH.

Dr. J. F. Hartigan presented a child three years and nine months old, weighing eighteen pounds, who at birth weighed only *one pound and a quarter*. Dr. Brengle, of Winchester, Ill., was the attending physician. Three years ago, after the parents' removal to Washington, Dr. Hartigan first saw the little girl. It weighed between four and five pounds, and has since suffered from several attacks of spurious hydrocephalus, diarrhœa, and dysentery; but now enjoyed good health. He was not aware of a parallel case, and wished to make it a matter of record. The mother has one other child, six years old, healthy, and well developed; both were born at term.

Dr. Hartigan also presented recent photographs of a case of

CONGENITAL MALFORMATION OF LEFT KNEE-JOINT, OR ANTERIOR FLEXION OF LEG UPON THE THIGH,

which he exhibited to the Society six years ago. The leg and foot could not be moved backwards after the tibia and fibula were in the axis of the femur; but at the child's volition, or with the gentlest pressure, the leg and foot bent forward against the quadriceps, the sole of the foot presenting upwards, the toes pointing into the groin; no indication of a patella could be found. The child was under treatment five

months, is now nearly seven years old, and it is impossible to tell which limb was deformed. The patella is fully developed, and posterior flexion complete.

DR. HARTIGAN also presented a

SECTION OF FRONTAL BONE SHOWING CONTUSION AND BLOOD EXTRAVASATION INTO THE DIPLOIC STRUCTURE.

The patient was a white man 35 years old. He was struck with a loaded cane, August 22, 1885. A day or two afterwards he complained of deafness, confusion of vision and intellect, dysphagia, and other symptoms of tetanus. The first convulsion occurred four days before his death, the twenty-second day of the injury. The autopsy showed the wound to be practically healed, but the bone underneath was denuded of periosteum, and there was congestion of the brain and its membranes.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, November 4th, 1885.

THE PRESIDENT, C. T. PARKES, M.D., IN THE CHAIR.

DR. HENRY T. BYFORD read a paper on

NERVOUS PAROXYSM, OR SYNCOPE.

(See p. 566.)

DR. J. H. ETHERIDGE asked Dr. Byford what he would think of the use of hypodermic injections of digitalis under such circumstances; if any one has ever used it in cases of acute syncope; and why it would not be a good thing to make use of?

DR. BYFORD said: In these attacks I think digitalis would perhaps hardly be the remedy, for the condition is one of reflex irritation, I think. I think it is a case of spasmodic contraction of the heart, and that any nervous symptoms are the result of a contraction of the arterioles of the brain rather than a falling off in the force of the circulation, and that stimulants, such as digitalis, would be liable to do harm. This class of cases I have considered really attacks of convulsions, in which consciousness is not lost; sometimes there is a partial loss of consciousness, spasmodic contraction of the diaphragm, the breath almost entirely cut off, and I suppose the same spasmodic condition of the heart; and sometimes, and in some of the cases referred to, there was rigidity of the muscles, one patient trying to throw herself out of bed. In real syncope the attacks involve loss of consciousness and relaxation of the muscles. Dr. N. Newkirk has informed me that he formerly treated cases of malaria wherein the onset was marked by such symptoms as have been described. These cases, occurring in a malarial district, were characterized by a foul stomach, due to the presence of acrid ingesta. Free vomiting, spontaneous or induced, nearly always gave relief.

DR. FRANKLIN H. MARTIN read a paper on

PALATABLE THERAPEUTICS.

He exhibited specimens of drugs manufactured in the form of pills, capsules, granular salts, elixirs, etc., either tasteless or palatable. Dr. Martin claimed that many of the greatest improvements in therapeutics have been gleaned from the field of charlatanism. Electricity, massage and the "Swedish movement" have been rescued from this domain, and placed upon a legitimate and scientific basis. The author claimed that homœopathic medication had three valuable characteristics, palatability, harmlessness, and inexpensiveness to the patients. This combination, absolutely without medical merit, accounts for the so-called success of homœopathy. If we can secure palatability to our remedies, we will do much to overcome the popular aversion to our medicinal preparations. Since 1817, when morphia was first isolated as an alkaloid, a great advance has been made in discovering the active principles of drugs. Of the alkaloids there have now been discovered twenty-two, with actions similar to the parent drugs. They are manufactured in pill form, and are more easy of administration than the disagreeable preparations from the crude drugs. Twenty glucosides have been similarly isolated and manufactured. While this branch of pharmaceutical chemistry is yet in its infancy, we can confidently look forward to the day when the active principles of all the organic drugs will have been discovered, isolated, and manufactured into palatable preparations. To-day, the salts of various metals, solid extracts, the bromides and iodides, chloral hydrates and the oils can all be administered in capsules. Dr. Martin claimed to be the first to suggest the enclosing in capsules solutions of chloral in oil. We can summarize the means by which we can make drugs palatable as follows: The administration of alkaloids, solid extracts, crude drugs of small bulk, and various salts, in capsules or gelatine or sugar-coated pills; the administration of glucosides and neutral principles in gelatine or sugar-coated granules; the administration of tasteless liquids in water; the administration of oils, oleoresins, oleates and drugs soluble in oil in soft elastic gelatine capsules; and the administration of medicines by the hypodermic syringe, suppositories and inunctions.

DR. J. J. M. ANGEAR said that the object of the paper was certainly commendable. He thought the latter part of the paper is valuable, where is urged upon us the necessity of discarding these nauseating remedies and availing ourselves of the science of chemistry, and we should take the admonition to ourselves.

DR. R. TILLEY thought that few experienced men would dare to give iodide of potassium in large doses in capsules. He always recommends large quantities of water to be taken in connection with iodide of potassium. With reference to arsenic and antimony, we are told they can be administered in solutions in teaspoonful doses. We all know that, but he questioned whether it is desirable. He has always recommended the administration of arsenic in large quantities of water, and also tartar emetic. As to the administration of permanganate of potassium in capsule form, he has known it to be so administered in two or three cases, with very severe pain attending the administration, but he has never administered it in that way himself.

DR. J. H. ETHERIDGE said that he thought the paper very timely; it was full of a great many good points, but he thought there is an objection to the administration of concentrated remedies, especially these alkaloids, in gelatine covers and sugar-coated pills. It sometimes happens that after they have been administered they do not dissolve, and then we get a terrific effect by a half dozen dissolving at once; and in some cases they do not dissolve at all. He recalled a case in which it was decided to give a child thirty-five grains of quinine; seven capsules were administered and three of them passed the rectum untouched. They may not always promptly dissolve, and the consequence is we run a very great risk of injuring our patients.

DR. A. H. FOSTER thought it time that we should begin giving medicine more palatably by giving it in smaller doses, and we will often get a primary and not a secondary effect from our remedies; and will not get that terrible perturbation that we would if we gave large doses. The point is, that we can and do have to study the palatability of our remedies. Another point is, that we have learned to simplify our remedies.

DR. D. A. K. STEELE said that in reference to some of the objections that may be urged against palatable remedies, the objection to pills is their insolubility, the fact that they pass through the alimentary canals unchanged. He has repeatedly found them undissolved; he has found that in administering quinine in that form he did not get the desired result. He thought the author made a mistake in giving too little credit to our pharmacists for the advances made in pharmacy in late years; and that the essential point of the paper is the fact that it impresses upon us the importance of giving less medicine and of giving it in a more palatable form.

DR. R. TILLEY said that Dr. Foster seemed to imply that we get our tendency to give small doses from the homœpaths. I take the opportunity of saying that in the large hospitals in Paris and London, they have placed patients with acute affections side by side, and to the one they have given all the medicine they have thought necessary, and to the other they have given careful attention and nursing, with the suggestions a practical physician would give, and there has been practically no difference in the result in the two classes of cases. Experience has taught us to give in certain cases, or in many cases, simply a teaspoonful of water occasionally, and that is very important, especially in children; a teaspoon of water is frequently all that the child needs, although few people seem to realize the fact.

DR. DOERING objected to crediting homœpathy with what science and chemistry has accomplished. Take the alkaloids; almost all have been discovered in Germany, where homœopathy cannot live at all—where they have not a single chair in any university. Palatable medicines are simply the natural result of the advance of the science of medicine, chemistry and pharmacy.

DR. C. T. PARKES recalled one case which illustrates the fact that palatable medicines are not always innocent and harmless. He was called to make a post-mortem examination on a boy 6 years old. Upon opening the abdomen he found in the abdominal cavity a round mass, and upon examination of this round mass it was found to be a sugar-coated quinine pill. These were also found in the vermiform appendix and had ulcerated through into the abdominal cavity.

DR. F. H. MARTIN closed the discussion by saying that in regard to the iodide of potassium, Dr. Tilley mentioned that he always gives iodide of potassium diluted in large quantities of water. When I was considering iodide of potash, I recalled the experience that I had myself in administering it. I diluted the drug after getting it into the stomach; that is, I gave the patient water after he swallowed the capsule, and he experienced no trouble. In regard to permanganate of potash, it is not necessary to give it in capsules—the oleate of manganese can be used by inunction, or the permanganate of potash be given in distilled water. In regard to the solubility of these pills, any of the best pills will dissolve in water in such a way that the remedies will become free in three minutes. If a capsule or pill of morphine be put in cold water, you can taste the morphia after it has been in the water not longer than two minutes, and you can readily see that by putting the pill into the stomach the gastric fluid, the temperature, and the muscular action, would soon cause its solution. In regard to quinine pills, some time ago I believe that medicine was put up with sulphuric acid, and it lost strength and became almost inert, but now they put quinine up in excipients that will dissolve readily, and also, loosely in flexible capsules.

FOREIGN CORRESPONDENCE.

LETTER FROM PARIS.

(FROM OUR OWN CORRESPONDENT.)

Does an Opacified Lens ever Recover Transparency?—Cure of Cataract—Medical Treatment of Cataract—Eye-dressings after Cataract-Operations—Removal of a Mesenteric Lipoma.

Since the remotest period of medical history up to the present time the question as to whether a crystalline lens opacified can ever resume its transparency, and whether it is possible to cure a cataract by medicinal means, has occupied the attention of medical men. In a very interesting paper on the medical treatment of cataract, Dr. Galezowski replies to the question in the following terms: "The fibres of the crystalline lens become opaque only because they had undergone the process of degeneration as much in their envelope as in their contents; and it is consequently impossible that the lens should resume its former vitality and transparency." The resolution of an opague lens has sometimes been observed, but this is effected only by the softening and the dissolution or absorption of the crystalline fibres, and the disappearance of the lens itself. The spontaneous cure of cataracts by luxation is not rare; numerous examples have been recorded in works on the subject. Sometimes it is the result of a blow on the

head, or on the orbit, sometimes it may proceed from a fall from a height, or it may happen without any appreciable cause. In all these cases, the cataractous lens is luxated, its ligament is ruptured, and the cataract falls into the vitreous body. This spontaneous depression of the cataract may sometimes be really salutary and persistent, as are often persistent and durable as regards results, the operations for cataract by depression.

Apropos of this subject, the late Dr. Desmarres, the well-known oculist, relates the following case in one of his works: "A pious old lady was affected with cataract in both eyes, but would not submit to an operation. She could hardly see to conduct herself, when one day in prostrating herself before an altar in a church, she suddenly recovered her sight. 'It is a true miracle,' she cried." The cataract was luxated, and Desmarres, on examining the eyes, was convinced of the fact. But the spontaneous luxation of the crystalline lens is a simple accident, and no one can count upon it for a cure. Moreover, the depression of a crystalline lens may be followed by loss of vision, either immediately or later on, as this quite frequently happens in operations for cataract by depression.

The medical treatment for cataract may have for its object to dissolve a cataract, either in dissolving it completely or in arresting its progress and evolution; but as has been shown that this is simply impossible, and all that has been related about the success of such treatment emanates generally from quacks or from practitioners who have faith in their particular nostrums, it must therefore be admitted that we possess no means to arrest the progress of cataract, and still less to dissolve it. The only resource we have at our disposal against cataract is, surgical operation.

If we are powerless to cure spontaneous cortical cataracts of a constitutional character, we cannot do otherwise than make exceptions in favor of cataracts of traumatic origin. In general, traumatic cataracts require the most energetic and at the same time the most careful treatment, particularly during the first few days after the accident. Should the cornea, iris, and crystalline lens be wounded, and if the iris protrudes into the wound of the cornea, the former will have to be excised. It is here that the repeated application of leeches to the temple will be found most useful, after which the alternate instillation of eserine and atropine drops may be employed with advantage, administering at the same time mercury internally and externally. If the wound of the capsule be healed, and the lens remain transparent, the application of atropine or the effecting of a simple artificial pupil, the vision may be completely reëstablished without its being necessary to extract the cataract. Traumatic cataracts may, however, develop with such rapidity that surgical interference will become indispensable, if the inflammatory accidents are not arrested by an energetic antiphlogistic treatment.

In connection with the treatment of cataract I may mention that the same author lately read a note at the Academy of Medicine, on a plan adopted by him for dressing the eye after operations for cataract. He reminded the Academy that about three years ago, he was the first to condemn the German method of extracting cataract, and to revert to the principles of the French school; that is to say, to the operation without iridectomy. This mode of operation gave him excellent results, and he had no doubt but that it will soon become generally adopted. But the author suggested that the success of the operation depended particularly upon the dressing employed after the operation, as suppuration of the cornea, which sometimes occurs, results from the infection of the wound in contact with the tears, which contain microbes. To prevent this contact and to maintain the coaptation of the wound, Dr. Galezowski covers the latter with large round pieces of adhesive gelatine combined with cocaine and corrosive sublimate. This preparation dissolves the tears only at the end of eight or fourteen hours, according to its thickness, which permits the wound to heal by the first intention. Twenty-four hours after, no trace whatever of the gelatine is found in the eye, and all danger of infection of the wound is removed.

At the same meeting of the Academy of Medicine, Terrillon presented a patient from whom he had removed an abdominal tumor which gave the abdomen a circumference of 130 centimetres. After the operation of laparotomy it was discovered that the tumor was an enormous lipoma included in the mesentery. This lipoma was enucleated, which occupied one hour and a half, and the tumor was found to weigh fifty-seven pounds. The blood-vessels were tied, the abdomen was sutured, and the patient sent to his bed. The operation succeeded very well, and the case progressed favorably; no peritoneal reaction, or any other bad symptom, having taken place.

A. B.

DOMESTIC CORRESPONDENCE

LETTER FROM PHILDELPHIA.

(FROM OUR OWN CORRESPONDENT.)

The College of Physicians—Treatment of Hay Fever—Treatment of Sunstroke—The Academy of Surgery—Hydronaphthol—Substitute for "Buried Sutures"—Instrument for Fractured Patella—Case of Cholecystotomy—Laparotomy—Semi-Annual Meeting of the Pathological Society—Curious Picture of first Ovariotomy in Hong-Kong—The Code.

Since my last letter we have had a number of interesting medical discussions in this city. One of them was before the College of Physicians, where Dr. Da Costa read a paper on the treatment of hay fever by cocaine. The result of his experience is, that cocaine is a valuable addition to our means of treating this troublesome affection, but that its effect is palliative, not curative. In the discussion which followed, Dr. Harrison Allen explained the varying susceptibility to improvement on the part of different individuals by a peculiarity of the erectile tissue of the nose. Thus, cocaine cannot be expected to give relief in the hay fever of persons who have little erectile property in the mucous membrane of the nose, while it will give relief in cases in which the

erectile property is largely concerned in the trouble, which is in the majority of the cases. Dr. H. C. Wood called attention to the investigations of Dr. Lyons, of Detroit, who has shown that there are at least two alkaloids in the coca leaf, the absence of one of which may cause failure of the commercial preparations. Another valuable paper read was by Dr. Orville Horwitz, on the treatment of sunstroke and heat exhaustion. This paper gave the result of the treatment of fifteen cases of this disease in the Pennsylvania Hospital during the past summer. The essential features of this consisted in the use of cold, and antipyrine for the high temperature, and of musk, ammonia, ether hypodermically, and tincture of digitalis, for the exhaustion. Dr. Wood remarked that the use of musk was new, while that of antipyrine was not, as it had been used in New York hospitals for this purpose before. He said that the ambulance surgeons carried antipyrine with them to give at once, and suggested that they might well cary ice also, since in case of heat stroke it is of so great importance to begin the treatment immediately upon the occurrence of the attack.

At the last meeting of the Academy of Surgery, Dr. Levis advocated the claims of hydronaphthol as an antiseptic agent. He also described a new form of suture to take the place of buried sutures. This suture is made by opening a wound wide, and passing a silver wire from the middle line of the bottom into the tissue, passing up toward the edge of the incision, but coming out of the flap inside at a moderate distance from the point at which it entered, so as to take up a mass of the tissue at the bottom of the wound. The other end of the wire is threaded on another needle, and passed in a similar manner into and out of the tissue of the other flap. The wires are then crossed and each needle is passed through the whole of the opposite flap so as to emerge through the skin at some distance from the edge of the incision. When drawn upon these sutures approximate the bottom of the wound. The ends are not fastened, and a separate suture is used to close the edges of the incision. Dr. Gross confirmed the good opinion expressed by Dr. Levis in regard to this suture, saying that he had used it very successfully.

At this meeting Dr. Morton showed a most ingenious steel rod, with sliding shoulders attached, which he uses for the cure of fracture of the patella. The rod is bored through the two fragments, the shoulders are slipped up until they press the fragments together, and then each is fastened in place by a screw. The rod is made in two sections, which screw together in the middle like two pieces of a pocket catheter, so that they can be separated and drawn out at opposite sides, thus avoiding the risk of drawing septic material into the wound, which would be unavoidable if the whole were in one piece. The irritation caused by this treatment of fracture of the patella, is insignificant, and it is much preferable to Malgaigne's hooks.

At the same meeting of the Academy, Dr. Keen reported an operation of cholecystotomy, in which, after having felt fully convinced that he had touched a gall-stone with the needle of a hypodermic syringe, it turned out that this could not possibly have been the case, as the gall-bladder was in an unnatural position, lying transversely to the usual position, and far back, being covered by a twisted and peculiarly shaped left lobe, which itself was mistaken for the usual tumor of the gall bladder. After cutting down into the abdomen the true relation of the parts was discovered, and the gall stone was found. It was so deeply situated and so tightly enclosed in the gall bladder, that it was removed with the greatest difficulty. Unfortunately the patient succumbed to the shock of the operation. Dr. F. H. Gross exhibited a most interesting specimen of cancer of the transverse and descending colon, which had caused sudden obstruction of the bowels, and for which the abdomen had been opened, naturally only to lead to the discovery that nothing could be done for the patient's relief.

At the recent semi-annual meeting of the Pathological Society, the address was delivered by Dr. J. Collins Warren, of Boston, who took for his subject "A comparison of the changes in arteries after ligature and in the ductus arteriosus and umbilical arteries after birth." The lecture was very interesting, and was followed by an entertainment given to Dr. Warren, at the St. George Hotel.

At the last meeting of the College of Physicians, there was presented a most curious picture, purporting to represent the first ovariotomy performed in Hong-Kong. The operator was Miss Reifsnyder, a graduate of the Woman's Medical College of this city, and the picture was made by a native artist. It represents the patient as seated in a large arm-chair, in an open pavilion with a huge pendulous tumor looking like a goitre hanging from the lower part of the sternum. Her middle is decently covered with a sort of skirt. The operator wears a Derby hat, and a French dress with a long and elaborate train, and she has on high heeled shoes. She stands with one foot on the ground and a knee upon the knee of her patient. Her knife is an ordinary carver. A few Chinese assistants stand around, and there is a very English looking man near a counter, above which is seen a row of shelves on which are bottles and jars, while one of the shelves is filled with skulls and other bones. Two most unmistakable Englishmen, with their hats on, stand outside the railing of the pavilion, leaning upon it and looking on at the strange spectacle, evidently mere passers-by who have stopped to gratify their curiosity. The whole scene seems to lie in the open air and to be of the most public character. A printed explanation occupies the open space above the heads of the spectators. The whole is a most *naïve* representation of the remarkable operation, which I am happy to say proved a success.

I will close my letter with a single word, not meant to be controversial, about the Medical Congress. When conversing with a distinguished medical man of this city recently, he said to me that he thought it had not been made plain enough to the readers of the JOURNAL that the "New Code" has nothing to do with the attitude which has been assumed here in regard to the Congress. This city, where the "Old

Code" may, in a sense, be said to have had its birth, is strongly attached to it. And however unnecessary it may be for those who do not need it, it is believed here to be of great value as a bulwark against irregularities to which the frailty of human nature makes many liable. The "Old Code" has been too useful to the whole profession in this country to be treated with disrespect in this city, which is nothing if not conservative. C. W. D.

COCAINE IN SURGERY—PERSONAL EXPERIENCE OF ITS EFFECTS.

TO THE EDITOR OF THE JOURNAL:

Dear Sir:—As a contribution to the aggregate of experience from which the value and application of cocaine is to be determined, I am able to give your readers a statement of its action upon myself while submitting to the removal of a lipoma. The tumor was situated on the nape of the neck, and with the outlying integument formed a body about the size of a closed fist. Thirty minims of water containing in solution gr. j ⅓ of cocaine hydrochlorate were injected at six points over and about the circumference of the growth. In addition to this, a mixture of ice and salt was applied for about two minutes after the injection of the cocaine. In about the same time the integument exhibited signs of freezing, whereupon the refrigerant was removed and an incision about five inches long was painlessly made.

Dr. G. W. Jenkins, of Kilbourn City, Wis., assisted by Drs. Wilson and Bryant, of this city, now found much difficulty in defining the tumor, owing to its vascularity, depth, and entire absence of investing membrane. These conditions prolonged the operation to fully half an hour, and until a depth of quite two inches was reached (beyond which the cocaine could not be expected to act) there was no sense of the tedious dissection or any pain from the introduction of the fine sutures with which the wound was closed. The effects of the ice had of course subsided in a few moments, and at no time could have extended below the integument. In two minutes from the injection of the cocaine a decided sense of mental exaltation was realized, quite similar to the incipient stage of systemic anæsthesia from chloroform, and attended with an almost irrepressible tendency to loquaciousness. This symptom may have been intensified by the contiguousness of the brain, but did not in the least impair perfect consciousness of all surroundings and necessity of self-control.

As no evidence equals that of personal experience, our reward for this trial was most satisfactory and convincing; proving that for a large class of minor surgical operations we have in cocaine an agent of inestimable value, and verifying its right to be termed the "angel of anæsthesia."

H. C. MARKHAM, M.D.

Independence, Ia., Oct. 27, 1885.

"WORDS AND THEIR USES."

TO THE EDITOR OF THE JOURNAL:

Dear Sir:—In a very excellent editorial on "Latent Talent in the Profession," in your JOURNAL for October 17th, you refer to the use of the word "diagnose" as offensive. I beg to call your attention to the fact that Webster gives the words "diagnose" and "diagnosticate" as synonymous, and better authority could hardly be desired. It is true that the form "diagnosticate" is more in accord with the Greek διαγνωστικός, from which it is derived, but "diagnosis" may as well be considered as derived from διάγνωσις, and it certainly has the merit of brevity. It would seem to be a most useless piece of work to attempt to check this tendency to brevity in speech in the present age; it certainly would, where the word of *three* syllables can correctly take the place of *five*, as in the present instance.

Very sincerely yours,

JAS. E. PILCHER, M.D.,
Ass't Surgeon U. S. Army.

Fort Custer, Montana, Oct. 30, 1885.

[We have received several communications, verbal and written, concerning our objections in the editorial mentioned to "diagnose" for "diagnosticate," "allude" for "mention," "apt" for "likely" or "liable," and even to "cases (or "instances") where," for "cases in which."

1. It must be very evident that "diagnostic" is derived from the first of the Greek substances named above; and the very fact that this adjective ends in *tic*, instead of being *diagnosive*, is an argument in favor of "diagnosticate," since "diagnostic" is used both as an adjective and as the participle of "diagnosticate." We do not object to "diagnose" because it is short; on the contrary, that is the only thing in favor of the word. The fact that Webster uses "diagnose" and "diagnosticate" as synonymous amounts to almost nothing in the way of supporting the former as a correct word. Webster found that the words were used to express the same idea, and hence incorporated both in his very objectionable Dictionary. Dr. Robley Dunglison, who was Webster's peer in linguistics—certainly in Greek—gives "diagnose" as *sometimes* used for "diagnosticate;" which clearly implies that he considered it objectionable. Even if Webster could be regarded an equal authority with Worcester (which is not the case), the fact that he gives "diagnose" and "diagnosticate" as synonymous is offset by the fact that Worcester does not give "diagnose" at all. We very seldom find *diagnosiren* used by German writers, though *diagnosticiren* is common. In French *diagnoser* is extremely rare, and is not given in the lexicons, while *diagnostiquer* is the correct form. In Italian the word is *diagnosticâre*, though only recently used, and not generally, if at all, given in the lexicons.

We have then Worcester, Dunglison, analogy and etymology against Webster. It has been said that usage favors "diagnose." But usage is not sufficient authority for a word which has no right to existence. Usage favors the verbs "to ligate" and "to ligature;" there is no good authority for these words, and there is for "tie," which will always answer the purpose. Common usage does not justify "post-mortem" for "post-mortem examinations," "autopsy," or "necropsy;" the last two being preferable because shorter.

But "post-mortem," and even "a post-mortem," are very frequently used by good writers.

Webster—and other lexicographers for that matter—gives "hypodermic" as the correct form, and does not even mention "hypodermatic," which is unquestionably correct.

2. The use of "allude" for "mention" cannot be justified on any grounds. In fact, the words are antonomous, not synonymous. To *allude* to a thing is to *suggest* it, to *imply* it, *hint at* it, *refer to* it, to *intimate* it or *insinuate* it; to *mention* is to *specify*, to *demonstrate*, to *declare*, to *state*. As has been shown, what is called "common usage" is not an infallible criterion as to correct usage of words. "Allude" and "mention are used synonymously by some very excellent writers both in America and in Great Britain. In the same way:

4. "Apt" is frequently used for "likely" and "liable." "Apt" means *fit*, *apposite*, *clever*, *ready*, *appropriate*, or *prompt*. A boy may be apt to learn (have sufficient intelligence and quickness to learn), but so lazy that it is not likely that he will learn. An intoxicated person is not only *likely* to fall (will *probably* fall), but is *apt* to fall. A good chemist is *apt* to make a good analysis, but if he has no apparatus it is not *likely* that he will make one at all. Nor are "likely" and "liable" synonymous terms. "Liable" really means *amenable*, *dependent*, *answerable*, *responsible*, etc. And to show how critics will often fall into serious errors, one of our best writers, a good English critic, and a learned man, gives "likely" and "liable" as synonyms of "apt," but refers "liable" to "amenable," and "likely" to "probable," in his work on "Synonyms and Antonyms," and does not give "apt" under either one! A man who embarks in a business of which he has no knowledge is both *apt* and *likely* to fail; it is *likely* that he will lose money; if he loses money belonging to some other person, which he should not have used, he is *liable* to punishment; and if he cannot make a good defence it is *likely* that he will be punished.

4. The use of "cases where" or "instances where" for "cases in which" (or the use of "instance" for "case") in medical writing, and in referring to a *Case* (patient), is so utterly wrong and inexcusable—and so clearly so—that it need not be discussed.—ED.]

ASSOCIATION ITEMS.

INFORMATION OF IMPORTANCE TO ALL MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION.

MEMBERSHIP.—Every one who attends an annual meeting of the Association as a delegate pays at that time five dollars, and thenceforward becomes a Permanent Member. He continues as such as long as he remains in good standing in the body from which he was originally sent as a delegate. As a Permanent Member, he must pay *Five Dollars Annually*, when notified by the Treasurer, whether he attends the meetings of the Association or not. Payment of annual dues entitles him to receive the weekly JOURNAL of the Association for one year.

MEMBERS BY APPLICATION are such as have not become Permanent Members in the manner above indicated, but apply to the Trea urer for membership, forwarding at the same time to him five dollars and the certificate of the President and Secretary of their State or local society, that they are in good standing in such society. They pay five dollars annually thereafter, when notified by the Treasurer. Members by application can join the Association at any time, and they receive regularly the weekly JOURNAL.

WHEN DUES ARE PAYABLE.—The annual dues from Permanent Members are payable to the Treasurer at the time of the annual meeting of the Association, or immediately thereafter. The payment entitles the member to receive the JOURNAL for one year from the following July. Payment for 1885, for example, entitles the member to the JOURNAL from July, 1885, to June, 1886, inclusive.

As some of the members have not yet forwarded to the Treasurer their dues for 1885, they are urgently requested to do so at an early day. Having entered upon another year of membership, they are morally and legally responsible to the Association for the payment of their annual dues, having already received for three months of the new year—1885—the JOURNAL of the Association.

SUBSCRIPTIONS TO THE JOURNAL, from those who are not members of the Association, should be forwarded to the office of publication, 65 Randolph Street, Chicago, and not to the Treasurer; but *all payments of annual dues must be forwarded to the Treasurer, Lock Box 1274, Philadelphia.*

DEATHS.—When a member of the Association, who is in regular receipt of the JOURNAL, dies, his family or other representatives are requested to inform the Treasurer at once of the fact.

PAYMENT OF DUES FOR PREVIOUS YEARS.—As a few members of the Association are still in arrears for payment of dues for 1883 and 1884, they are requested to forward at once to the Treasurer the amounts for which they are indebted to the Association.

TRANSACTIONS OF THE ASSOCIATION.—These annual volumes, thirty-three in number, to 1882 inclusive, may still be obtained, with few exceptions, from the Treasurer, at reduced prices. The Index to these volumes will be forwarded on receipt of *One Dollar*. An opportunity is thus afforded to complete sets of these valuable publications, or to obtain important papers and works which are daily becoming scarce.

RICHARD J. DUNGLISON, M.D., *Treasurer.*
Lock Box 1274, Philadelphia, Pa.

NINTH INTERNATIONAL MEDICAL CONGRESS, WASHINGTON, D. C., 1887.

[The following are some of the more important Rules adopted relating to the preliminary organization of the Congress.—ED.]

1. The Congress shall consist of members of the regular profession of medicine, who shall have inscribed their names on the register and shall have taken out their tickets of admission; and of such other

scientific men as the Executive Committee of the Congress may see fit to admit.

2. The dues for members of the Congress shall be ten dollars each for members residing in the United States.

There shall be no dues for members residing in foreign countries.

Each member of the Congress shall be entitled to receive a copy of the "Transactions" for 1887.

3. The Congress shall be divided as follows, into seventeen Sections:

I. General Medicine.
II. General Surgery.
III. Military and Naval Surgery.
IV. Obstetrics.
V. Gynæcology.
VI. Therapeutics and Materia Medica.
VII. Anatomy.
VIII. Physiology.
IX. Pathology.
X. Diseases of Children.
XI. Ophthalmology.
XII. Otology and Laryngology.
XIII. Dermatology and Syphilis.
XIV. Public and International Hygiene.
XV. Collective Investigation, Nomenclature, Vital Statistics, and Climatology.
XVI. Psychological Medicine and Diseases of the Nervous System.
XVII. Dental and Oral Surgery.

4. The General Meetings of the Congress shall be for the transaction of business and for addresses and communications of general scientific interest.

* * * * * * * *

8. The official languages of the Congress shall be English, French, and German.

In the meetings of the Sections, no member shall be allowed to speak for more than ten minutes, with the exceptions of the readers of papers and those who introduce subjects for discussion, who may each occupy twenty minutes.

9. The rules and programmes shall be published in English, French, and German.

Each paper and address shall be printed in the "Transactions" in the language in which it was presented, and preliminary abstracts of papers and addresses also shall be printed, each in the language in which it is to be delivered.

All discussions shall be printed in English.

10. The President of the Congress, the Secretary-General, the Treasurer, the Chairman of the Finance Committee, and the Presidents of the Sections, shall together constitute an Executive Committee of the Congress, which Committee shall direct the business of the Congress, shall authorize all expenditures for the immediate purposes of the Congress, shall supervise and audit the accounts of the Treasurer, and shall fill all vacancies in the offices of the Congress and of the Sections. This Committee shall have power to add to its membership, but the total number of members shall not exceed thirty. A number equal to one-third of the members of the Committee shall constitute a quorum for the transaction of business.

11. The Officers of the Congress shall be a President, Vice-Presidents, a Secretary-General, four Associate Secretaries, one of whom shall be the French Secretary, and one of whom shall be the German Secretary, a Treasurer, and the Chairman of the Finance Committee.

12. The officers of each Section shall be a President, Vice-Presidents, Secretaries, and a Council.

13. The officers of the Congress and the officers of the Sections shall be nominated to the Congress at the opening of its first session.

MISCELLANEOUS.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 7, 1885, TO NOVEMBER 13, 1885.

Col. E. I. Baily, Surgeon, relieved from duty as attending surgeon, San Francisco, Cal., and ordered for duty as Medical Director, Div. of the Pacific and Dept. of California.

Lt.-Col. Basil Norris, Surgeon, ordered for duty as Medical Director, Dept. of the Columbia.

Maj. J. C. McKee, Surgeon, ordered for duty as attending surgeon and examiner of recruits, Boston, Mass.

Lt.-Col. E. P. Vollum, Surgeon, ordered for duty as Medical Director, Dept of Texas.

Lt.-Col. J. R. Smith, Surgeon, ordered for duty as attending Surgeon, New York City, N. Y.

Lt.-Col. R. H. Alexander, Surgeon, ordered for duty as Medical Director, Dept. Arizona. (S. O. 260, A. G. O., Nov. 11, 1885.)

Capt. John J. Kam, Asst. Surgeon, ordered for duty as post surgeon, Ft. Ringgold, Tex. (S. O. 141, Dept. Texas, Nov. 4, 1885.)

Capt. R. G. Ebert, Asst. Surgeon, ordered from Camp Grant, Riverside Park, New York City, to Ft. Hamilton, New York Harbor, for duty. (S. O. 237, Dept. East, Nov. 5, 1885.)

First Lieut. G. E. Bushnell, Asst. Surgeon, assigned to duty at Camp Grant, Riverside Park, New York City. (S. O. 237, Dept. East, Nov. 5, 1885.)

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING NOVEMBER 14, 1885.

J. S. Sayre, Asst. Surgeon, detached from Naval Hospital, Mare Island, and ordered to the "Omaha."

W. S. Dixon, Surgeon, detached from Coast Survey Str. "Hassler" upon reporting of his relief, P. A. Surgeon D. O. Lewis, and wait orders.

D. O. Lewis, P. A. Surgeon, detached from Naval Rendezvous, San Francisco, and ordered to relieve W. S. Dixon, Str. "Hassler."

J. S. Dungan, Medical Director, ordered to Naval Rendezvous, San Francisco, to relieve P. A. Surgeon D. O. Lewis.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FOR THE WEEK ENDED NOVEMBER 14, 1885.

Wheeler, W. A., Passed Asst. Surgeon, to proceed to Ontario, Canada, on Special duty. Nov. 11, 1885.

Urquhart, F. M., Passed Asst. Surgeon, to proceed to Baltimore, Md., with Str. "Manhattan," and then rejoin station. Nov. 12, 1885.